easyRAID® NAS

the easy-to-use NAS-Solution

NAS Series—Network Hard Disk Drive Array

Operation Manual

Foreword

About this manual

The purpose of this manual is to assist users to understand the easyRAID family of Network Attached Storage (NAS) with Hard Disk Drive Array functionality and to operate the system easily.

All information in this manual has been verified carefully to ensure the correctness of its contents. In case of negligence or error, please provide feedback to us. easyRAID reserves the right to modify the contents of this manual without any notice in advance.

EMC Certified

This product has passed FCC Class B inspection. Appropriate certifications have also been approved, e.g. CE, UL, CB, C-Tick and BSMI.

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Product Name: easyRAID 420GT NAS Network Hard Disk Drive Array
Manual Revision: 1.1
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Thank You for purchasing easyRAID® NAS the easy-to-use NAS System

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Chapter 1

Introduction to easyRAID 420GT NAS FAMILY

easyRAID NAS 420GT is a RAID enabled NAS (Network Attached Storage). The ability of the unit to conduct continual self tests, beyond unsymmetrical fault tolerance, data validation functions provided by RAID Level 0,1,3 and 5, the availability of cooling fans and hot-swap function make the easyRAID family of network attached storage with hard disk drive array even more reliable and easy to use.

1-1 easyRAID 420GT NAS Family Features

- Completely OS Independent networking storage system.
- Basic system configuration is easily done via web browser.
- LCD Front Control Panel displays the system status and OS Configuration.
- Hard Disk Drive Error indicator LED.
- Automatic Formatting, Data Replacement and Recovery.
- Support UPS device (APC Back-UPS ES 500 and Smart series with RS-232 Interface).
- Support 2*RJ45 Ethernet Port. (One 10/100/1000 Mb, One 10/100 Mb)
- Quick Configuration Function makes first-time system configuration easy.
- Firmware upgradeable.
- Support hard disk drive hot-swap.
- Fan and Power System Failure automatic detection.
- Automatic over-heat detection.

1-2 Using this Manual

The following icons will help you to identify important information, when used within this manual.

This icon indicates helpful key points and information.

This icon indicates a warning, to avoid making damages to the software, the hardware, or the data.

1-3 Items in the Package

Please ensure that the package housing the unit is not damaged before opening your easyRAID 420GT. Items in the package include:

- easyRAID 420GT NAS System
- Power Cord
- 2 * 2Meter RJ45 Cable
- Accessory Bag
- Operation Manual on CD

If there is any question, please contact your local dealer.

Chapter 2

Getting Started and Quick Configuration

This chapter covers “Quick Configuration” of the system to get started with easyRAID NAS System network HDD array.

Basically, we assume the system administrator who operates this system, has adequate level of understanding of HDD array and LAN related knowledge.

2-1 System Hardware Installation and Configuration

The basic hardware setup includes: the system itself, 4 hot-swappable caddies, a power cord, 2 network cables, and a set of key.

2-2 Hard Disk Drive Installation

Install a hard disk drive (HDD) in the HDD caddy by connecting the HDD to the connector at the rear of the HDD caddy. Since your easyRAID NAS System supports hot swap, it is not necessary to shutdown the system upon HDD removal or replacement of “One” drive. However, all practices relating to RAID systems must be observed.

In the event that more than one drive needs to be removed, the system must be shut down to avoid data corruption.

All HDD must be set as “**Master Only Mode**.”

Please follow these steps to add HDD into easyRAID NAS System network HDD array.

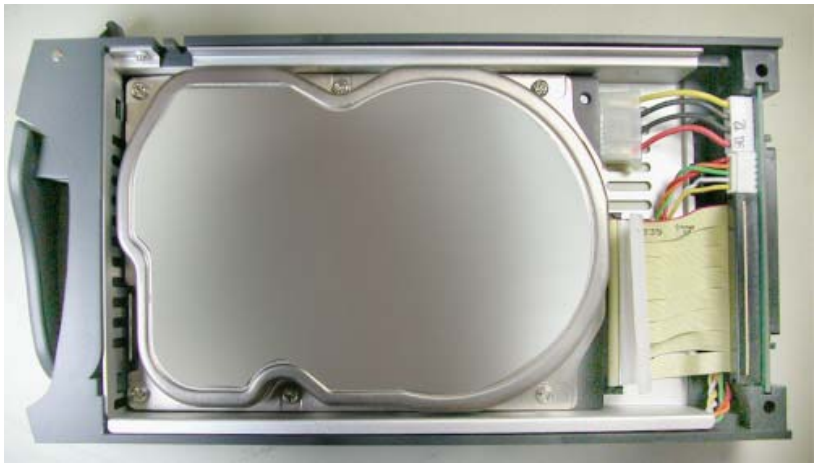


Figure 2-1 Hard Disk Drive Installation

1. Withdraw the HDD caddy out from easyRAID NAS System.
2. Make sure the HDD is set to “Master Only” mode.
3. Connect the IDE cable and power cord in the HDD caddy to the HDD.
4. Place the IDE HDD into the HDD caddy, as shown in Figure 2-1 and secure with the screws provided.
5. Insert the HDD caddy back into easyRAID NAS System.
6. Lock HDD caddy to prevent inadvertent removal.

2-3 Network Connection

easyRAID NAS System supports two Ethernet ports (one Gigabit and one 10/100 Mb). Under normal circumstances, simply connect a network cable from NAS Ethernet to the switch and it will work.

Figure 2-2 Connecting Ethernet Port

To properly shutdown the system:
1. Select “Shut Down” from the menu on system LCD display.
2. Alternatively, select “Shut Down” from the administrative page.
3. Immediately turn off the power. Do not exceed 4 seconds. NAS System supports manual shutdown by using the “Shutdown on Power Push Button.”

When the system is in normal operation, do not turn off the power directly from the power source. Otherwise, data that are in the process of been written on the NAS might be lost and can not be recovered. For more details, please refer to section 4-8, system menu.

2-4 System Bootup—Self Configuration Test

After the power is turned on, easyRAID NAS System performs Self Configuration Test automatically. These self tests include CPU Type, CPU Fan, System Memory Size, Network Control Chip, and IDE Control Chip data, to ensure normal system operation.

2-5 IP Address

Most system configuration settings can be set via system administrator control. This administrative control is web browser based. To access the system administrator control, you must know the IP Address of easyRAID NAS System.

Upon first-time bootup, easyRAID NAS System initiates DHCP/BOOTP to select all available IP Addresses in network. If manual input of an IP Address is required, acquire the IP Address from the system administrator. And then manually type the IP Address via the front control panel.

Upon first-time bootup, easyRAID NAS System initiates DHCP/BOOTP to select all available IP Addresses in network. If other means of IP Address selection is required, you can manually type an IP Address via LCD front control panel.

easyRAID NAS 420GT is supporting two Ethernet Ports (Eth0 and Eth1). The settings procedure is almost the same except there is no need to configure the “Gateway” for Eth0.

Follow these steps and manually type the IP Address through the front control panel:

1. Press “Enter” key.
2. Type the administrative password and press “Enter” key. (The default password of this product is eight zeros (00000000). Note: You may press the “ESC” key to exit at any time). After entering the eighth zero, press the “ESC” key to finish and it will take you to the next step.
3. If LAN supports DHCP Server, use automatic detection to complete configuration.
4. Steps to disable DHCP. **(11 for CHANNEL0 and 12 for CHANNEL1)**

	11 CHANNEL0 115 DHCP	Press “Enter”
Select	115 DHCP STATUS ON	Then Press “Enter”
Then Select	115 DHCP STATUS ON OFF	Then Press “Enter”

Use the “▲” up and “▼” down arrows to select “OFF,” then press “Enter.”

5. Use the “▲” up and “▼” down arrows to select menu items. Select “1Network” and press “Enter” to confirm. Select “11 Channel 0” and press “Enter” key to confirm.
6. Press “Enter” key again to verify “Channel 0 Status”. Results are displayed on the LCD front control panel.

111 CH0 Status ON CONNECTED

When a connection is made, a red light just above the left front panel is visible on the NAS unit. If this light is not visible then the connection has failed.

7. If the status is “DISCONNECTED,” the connection to Ethernet is not successful. Please check if the network cable is connected correctly. After verification, press “Enter” key to check “Channel 0 Status” again. Make sure the connection to network is successful.

Ethernet status won’t be updated automatically! Press “Enter” key to check “Channel 0 Status” again and make sure the connection to network is successful.

8. Setup IP address Manually
9. Use the "▲" up and "▼" down arrows to select "112CH0 IP ADDR." Press "Enter" to set the IP Address.
10. Every time you type an IP digit, press "Enter" once before punching in another digit.
11. Use the "▲" up and "▼" down arrows to select "113CH0 NetMask." Press "Enter" to set the Sub-network Mask IP Address. (Optional)
12. Type the Sub-network Mask IP Address. (If not supplied, system will set to default)
13. Press "ESC" key 4 times continuously to exit the main menu. At this moment, the LCD front control panel will display all relevant information, such as CPU temperature, fan speed, and the set IP address, etc.

The following "Gateway" setting is only apply for "Channel 1" and its no need for "Channel 0".

14. Use the "▲" up and "▼" down arrows to select "124CH1 GateWay." Press "Enter" to set the Gateway IP Address. (Optional)
15. Type the Gateway IP Address. (If not supplied, system will set to default).
16. Refer to step 13 to exit the main menu.

2-6 Connecting to a Network

When all system configurations are set and connected to the network, type the IP Address via an internet browser (e.g. Internet Explorer) to access the system administrative web page and complete all administrative tasks.

2-7 Administrator Login

Figure 2-3 shows the login screen of easyRAID NAS System network HDD array after the IP address has been entered on the Web browser address line. The table below shows the initial factory default for the administrator gain access to the system.

Default administrator password

User Name	nasroot
Password	00000000

After typing in the administrator user name and password, press “Go” symbol on the login page or just simply hit “enter/return” key on Keyboard.

Figure 2-3 easyRAID NAS System Login Screen

2-8 System Information Screen

Figure 2-4 shows the display screen after logging in as the administrator. There are 2 parts in the screen:

1. System Information area: The configuration area for administrator. Including: changing settings, statistics records, shared data, and storage space, etc.
2. Menu area: Select desired tasks to perform form menu area.

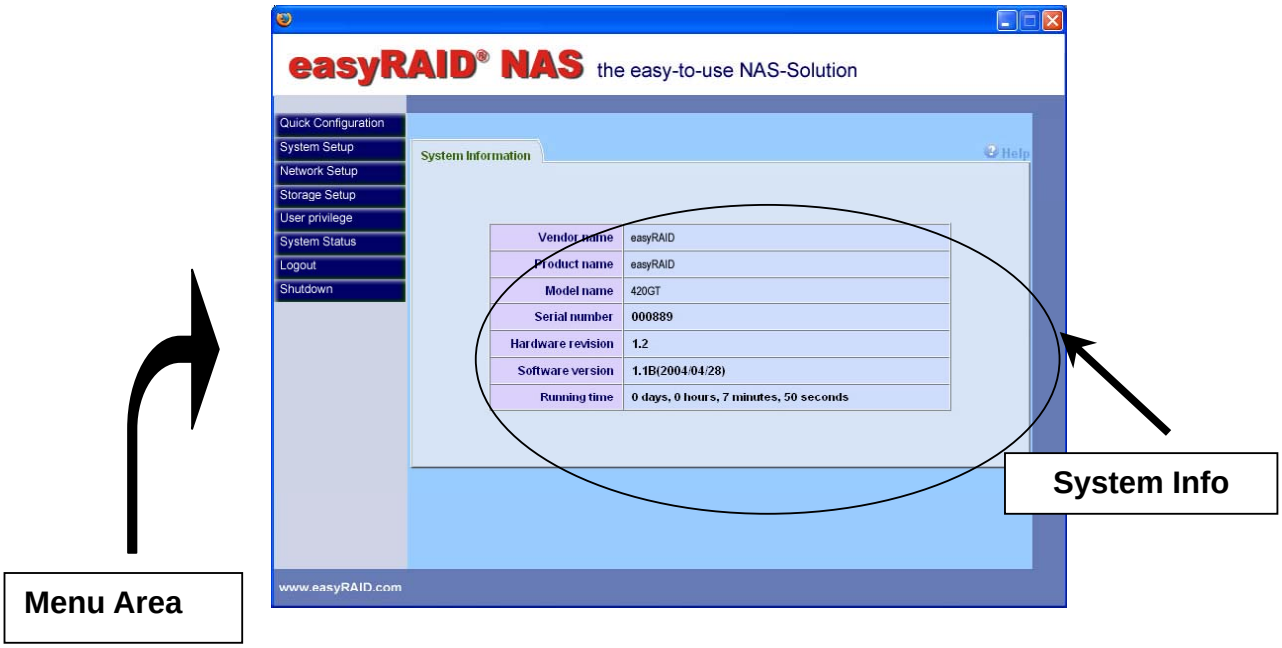


Figure 2-4 Display after Logged in as Administrator

2-9 Quick Configuration

Figure 2-5 shows the Quick Configuration screen. Initial configurations may be set through this screen.

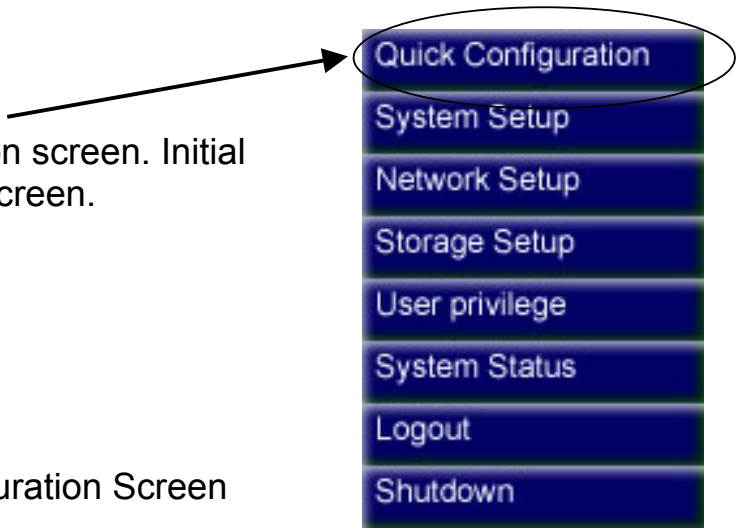


Figure 2-5 Quick Configuration Screen

2-10 Server Name

The server name must be unique. If there are other servers in the network environment, please make sure the name is not repeated. Length of the name should not exceed 14 characters, and should not contain any space.

Figure 2-6 shows the server name settings. After typing in the name, there are 2 more options available:

1. Update and Next: System will store settings and go to the next setting screen.
2. Next: System will ignore any changes and go directly to the next setting screen.

Figure 2-6 Server Name

Type in the server name and click “Update and Next.” System stores new settings and returns the updated status. Confirm that the system prompts “Changed Successfully” is showing and then click “Next” button.

Figure 2-7 shows the system prompt information.

Figure 2-7 System Prompt Information

2-11 Date, Time, and Region

Figure 2-8 shows the settings of date, time, and region as well as NTP option.
If your location is not in the list, please select a city that is the nearest and within the same time zone.

Figure 2-8 Settings of Date, Time, and Region

When settings are done, click “Update and Next” to proceed to the next screen.

2-12 Network Settings

Figure 2-9 shows the settings screen of network port. From the pull-down menu, you may select the system IP address as “DHCP/BOOTP” Obtain an IP Address “Automatically” or “Manual.”

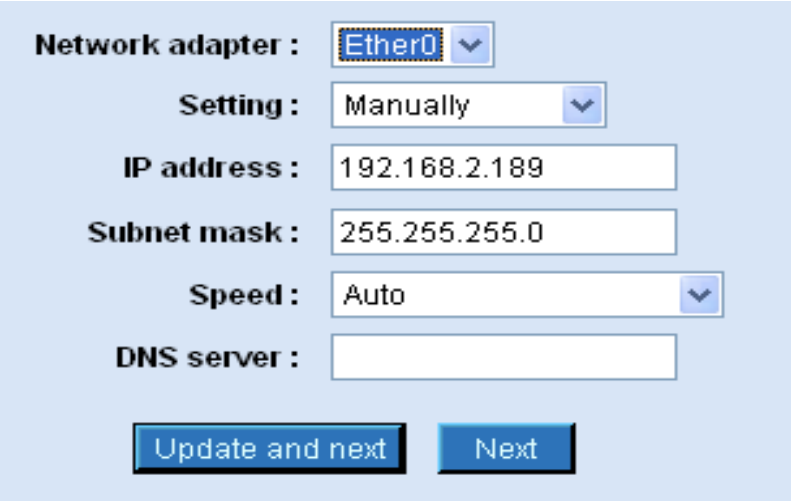


Figure 2-9 Settings of Network Port

The system will automatically select a physical network port that is available and auto-sense the speed of the network. If manual setting is desired, select “Manual” from the pull-down menu, instead of “DHCP/BOOTP Obtain an IP Address Automatically.”

When settings are done, click “Reboot” to proceed to the next screen and restart the NAS system using the changes. Clicking “OK” button saves the changes and exit this screen allowing the administrator to continue making other changes. Only when the system is rebooted will any changes be activated.

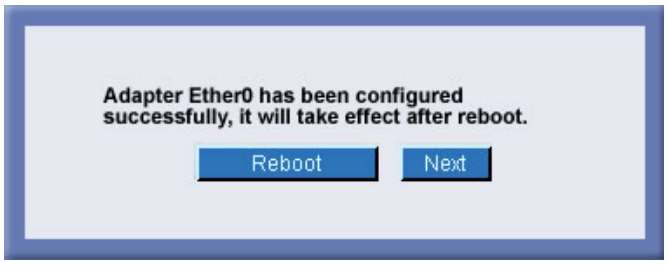


Figure 2-10 Network Device Setup Successfully

2-13 Adding Storage Volume

Upon first-time system configuration, there will be no existing storage volume. Figure 2-11 shows the system prompt.

Figure 2-11 No Storage Volume Existed in System

Before setting the system as an array storage system, you have to setup at least one storage volume. Click “Add” button, and go to Storage Volume Settings screen.

2-13-1 Storage Volume Settings

The system supports multiple storage volumes and each storage volume can be set as JBOD, RAID-0, 1, 3 or 5.

A storage volume itself can be a single HDD (JBOD mode) without any RAID support. A storage volume may be assigned as a backup HDD, to automatically replace any damaged HDD in storage volume.

If the number of unused HDD is less than the number required by a specific storage volume option, then the storage volume option will not be available. The following figure shows minimum required number of HDD for all options.

Storage Volume Type	Minimum HDD Number Required
Single HDD (No array)	1
RAID-0 (Disk Striping)	2
RAID-1 (Disk Mirroring)	2
RAID-3 (Disk Striping with parity)	3
RAID-5 (Disk Striping with parity)	3

2-13-2 Single HDD Storage Volume:

This mode does not have array support and only supports single HDD. Figure 2-12 shows the screen when Single HDD Option is used.

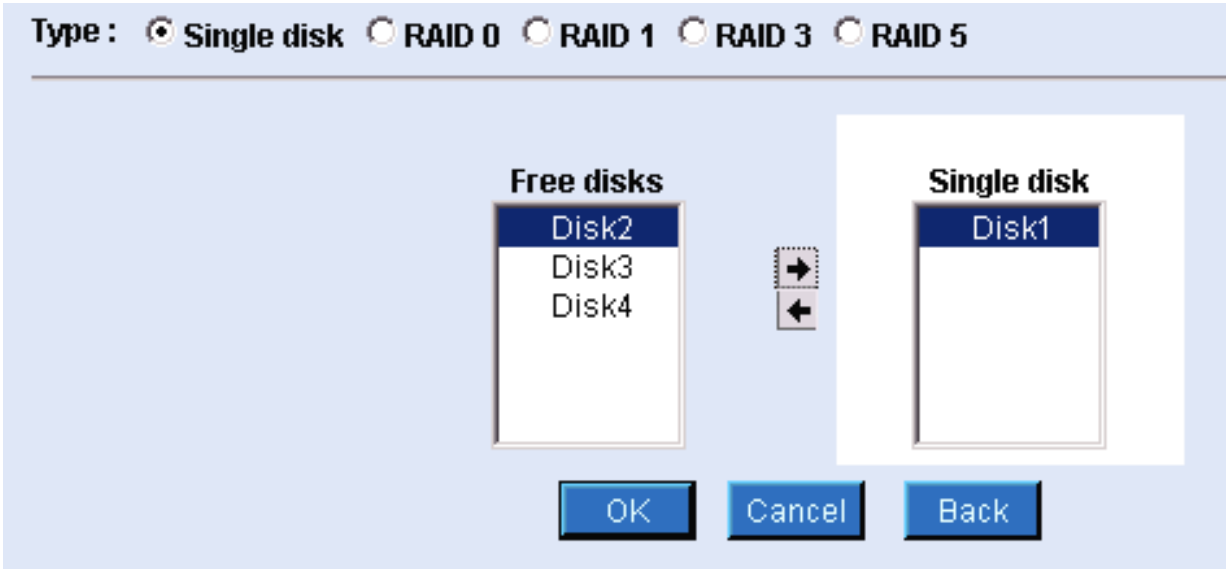


Figure 2-12 Single HDD Storage Volume

On the left of screen, lists all HDD that are installed in the system but not configured as storage volume yet.

Select desired HDD and click the "➔" right arrow button to make it a single HDD storage volume. If you change your mind, click the "🡐" left arrow button to put it back to the unused HDD list.

When settings are done, click the "OK" button.

To cancel the single HDD storage volume settings, click "Cancel" or "Back."

2-13-3 RAID-0 Storage Volume—Disk Striping

Figure 2-13 shows the screen when RAID-0 Option is used.

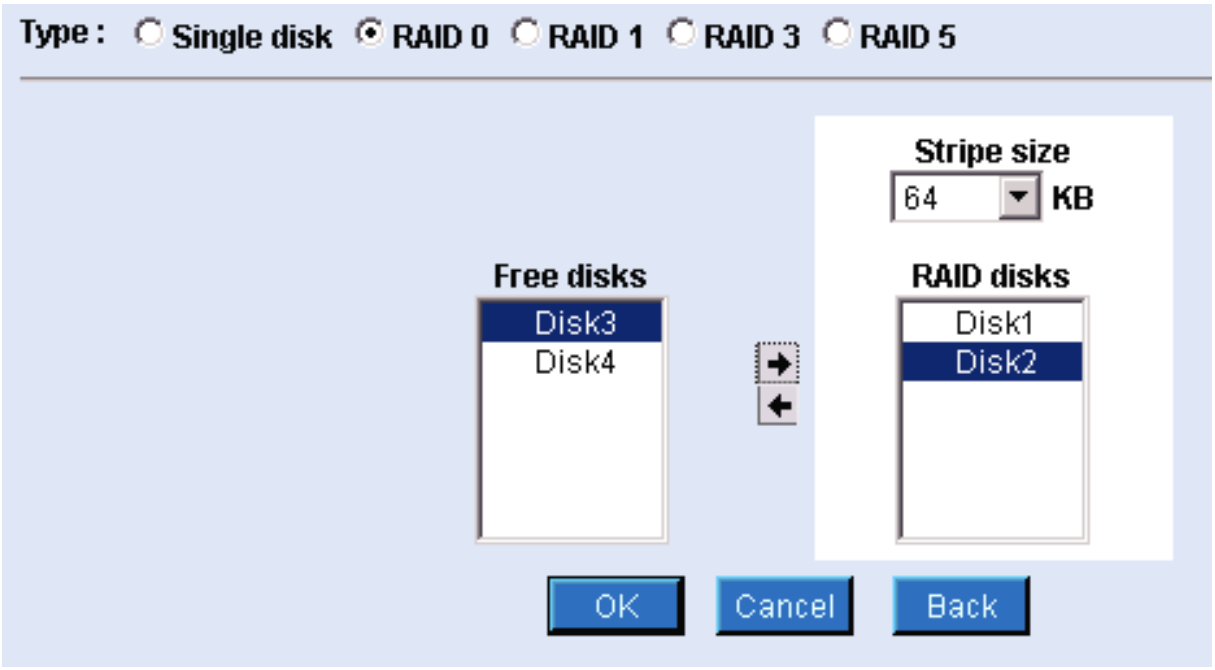


Figure 2-13 RAID-0 Storage Volume

1. Available HDD: A list of all HDD that has installed in the system but not configured as storage volume yet.
2. RAID HDD: Select desired HDD and click the "➔" right arrow button to add it into the RAID-0 storage volume. If you change your mind, click the "🡐" left arrow button to put it back to the unused HDD list.
3. Stripe Size: Maximize the performance of sequential file in the storage volume. There is no need to change the settings in general, unless the advanced administrator has special file storage layout in the storage volume.
4. When settings are done, click "OK" button.

A single HDD can not support RAID-0. It requires at least 2 HDD.

RAID-0 does not have any safety features, such as "Data Synchronization" and "Automatic Data Recovery."

2-13-4 RAID-1 Storage Volume—Disk Mirroring

Figure 2-14 shows the screen when RAID-1 Option is used.

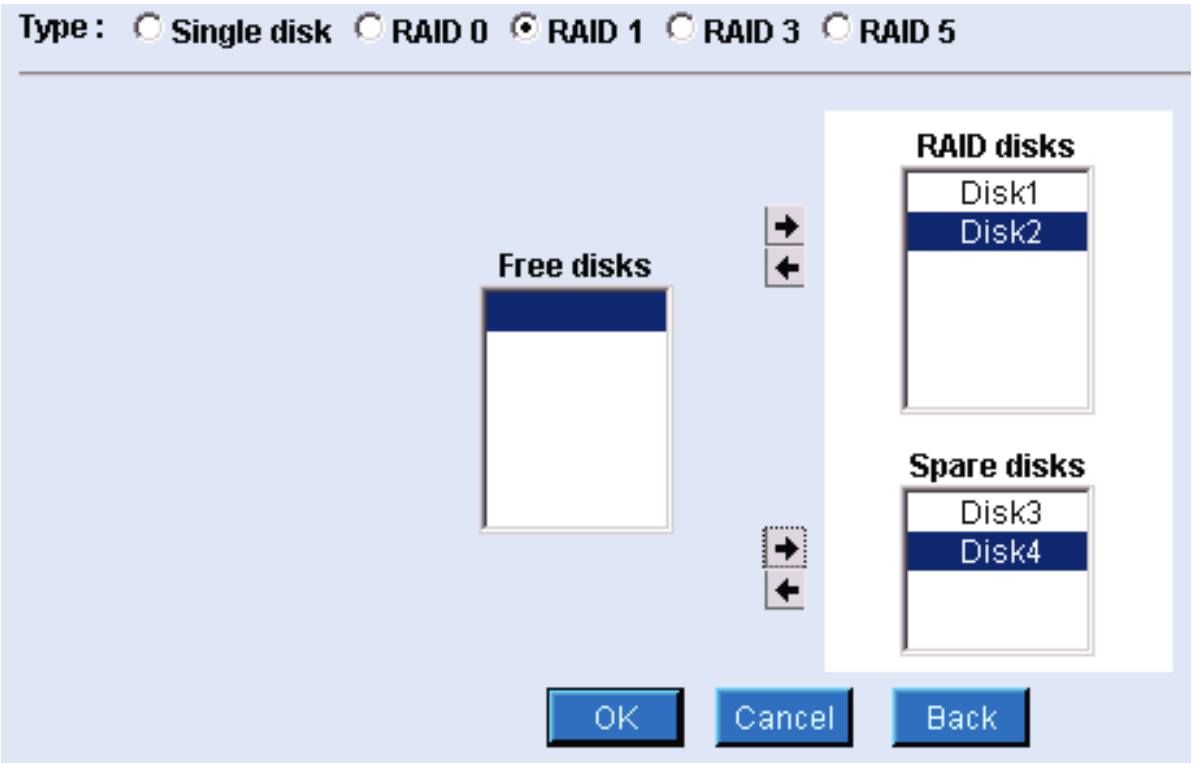


Figure 2-14 RAID-1 Storage Volume

1. Available HDD: A list of all HDD that has installed in the system but not configured as storage volume yet.
2. RAID HDD: A list of all HDD that are already added into this storage volume. To add a HDD, click the "➔" right arrow button to add it into the RAID-1 storage volume.
3. Backup HDD: Shows the designated replacement HDD in the storage volume. (The backup HDD for any damaged HDD)

RAID-1 supports 2 or 4 HDD.

2-13-5 RAID-3 Storage Volume—Disk Striping with Parity

This RAID-3 feature is unique to the easyRAID family of NAS and is the first to be available in this type of product. While RAID-3 is similar to RAID-5, this feature is different in that it does not have a stripe size option. RAID-3 is most efficient for small number of users who are working with large files. When multiple users require access to the NAS and smaller file sizes, it is more efficient to utilize a RAID-5 system.

Figure 2-15 shows the screen when RAID-3 Option is used.

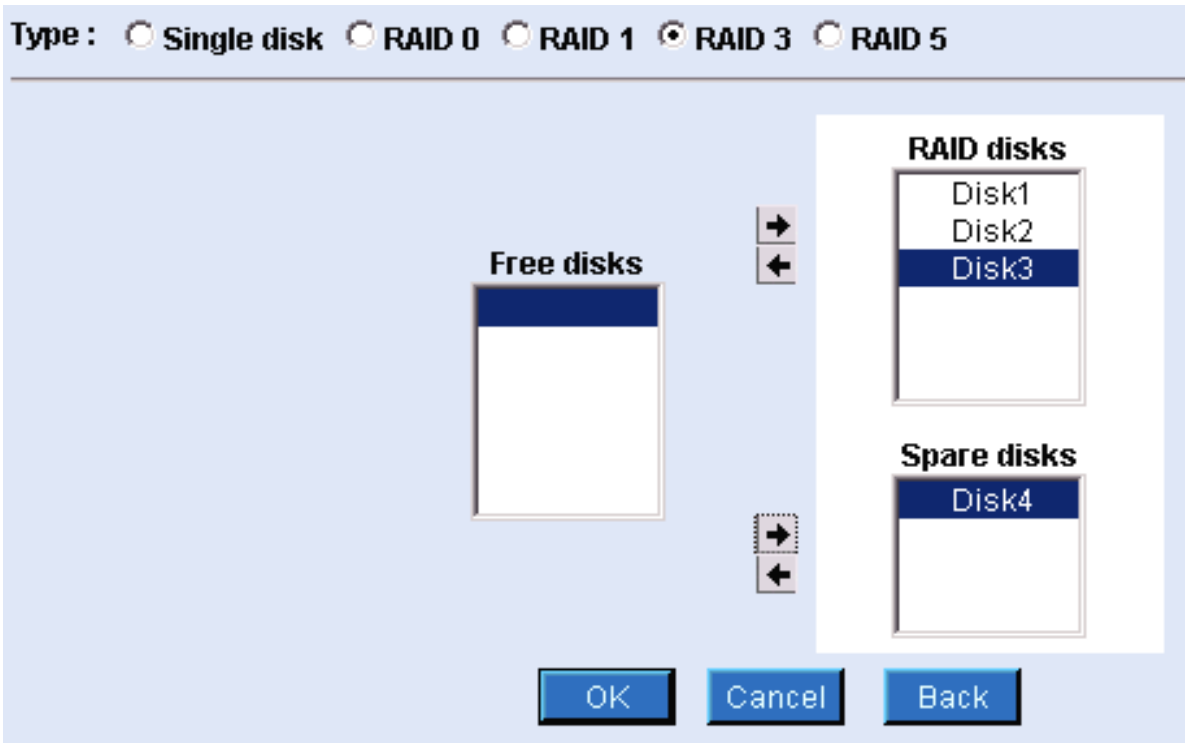


Figure 2-15 RAID-3 Storage Volume

1. Free disks: A list of all HDD that has installed in the system but not configured as storage volume yet.
2. RAID disks: A list of all HDD that are already added into the storage volume. To add a HDD, click the "➔" right arrow button to add it into the RAID-3 storage volume.
3. Spare disks: Shows the designated replacement HDD in the storage volume. (The backup HDD for a damaged HDD)

When settings are done, click the "OK" button. If you change your mind, click the "🡐" left arrow button to put it back to the unused HDD list.

2-13-6 RAID-5 Storage Volume—Disk Striping with Distributed Parity

Figure 2-16 shows the screen when RAID-5 Option is used.

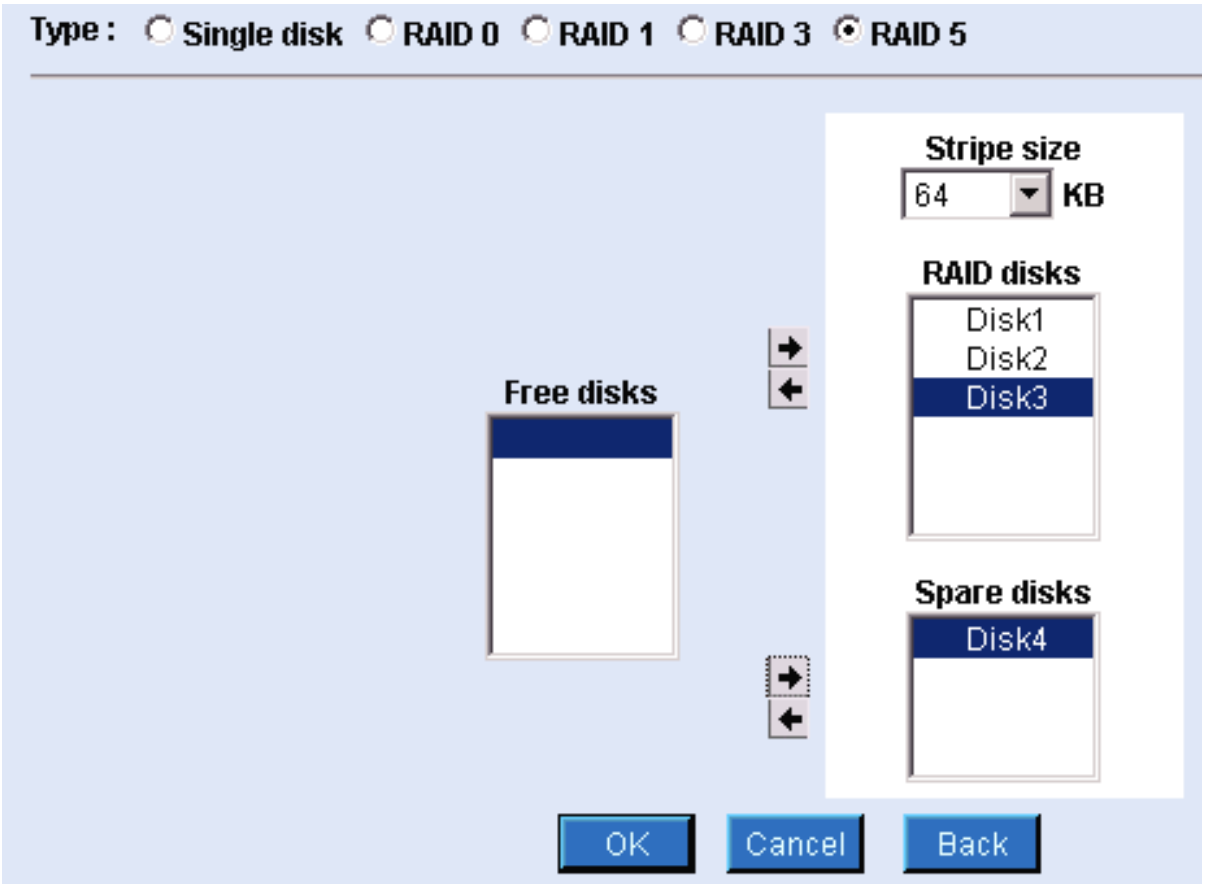


Figure 2-16 RAID-5 Storage Volume

1. Free disks: A list of all HDD that has installed in the system but not configured as storage volume yet.
2. RAID disks: A list of all HDD that are already added into the storage volume. To add a HDD, click the "➔" right arrow button to add it into the RAID-5 storage volume.
3. Spare disks: Shows the designated replacement HDD in the storage volume. (The backup HDD for a damaged HDD)
4. Stripe size: Maximize the performance of sequential file in the storage volume. There is no need to change the settings in general, unless the advanced administrator has special file storage layout in the storage volume.

When settings are done, click the "OK" button. If you change your mind, click the "🡐" left arrow button to put it back to the unused HDD list.

2-13-6 Building Up Storage Volume

Figure 2-17 shows the progress screen, when the system is building up a storage volume.

Figure 2-17 Storage Volume Building Up Prompt

System is setting up file system and building up storage volume. Please wait until it reaches 100%, as shown in figure 2-17. This screen is different from the RAID synchronization screen.

2-13-7 Multiple Storage Volumes

Figure 2-18 shows a list of all storage volumes that are established in the system.

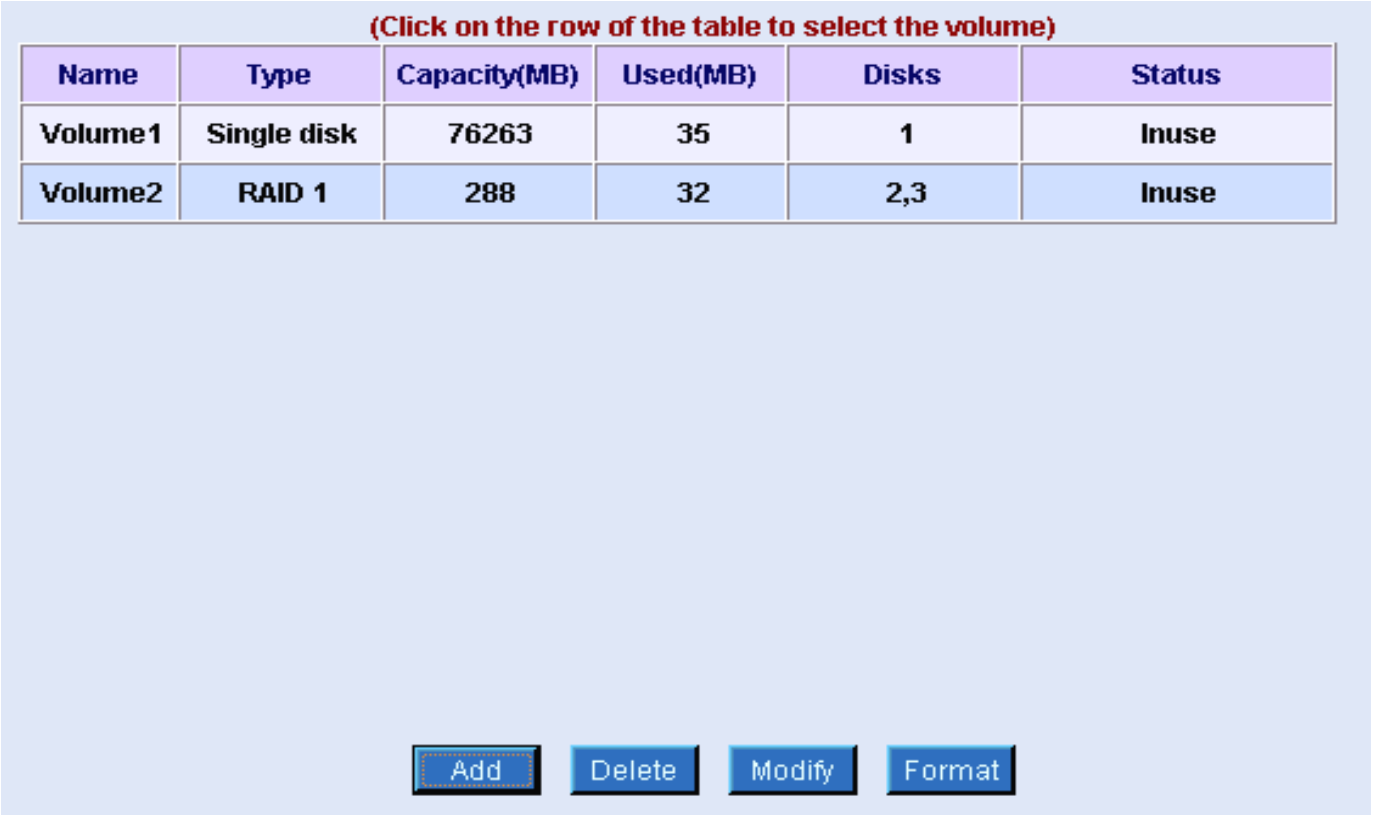


Figure 2-18 List Of All Storage Volumes

The system supports multiple storage volumes. To add a new storage volume, simply click on “Add” button and complete its settings. When settings are done, click on “Next” to proceed to next screen.

RAID-3, 5 requires a minimum of 3 HDD.
RAID-1, 3, 5 allows only one disconnected or damaged HDD. If 2 HDD are disconnected, HDD array will be damaged.

After the system has initiated the RAID build process, you may set the initialization speed to increase RAID Synchronization to save time, as shown in figure 2-19.

To change the speed of the initial Build up or rebuilding, select the storage volume and it will be highlighted in yellow. Click on the Modify Button and you may change rebuilding speed or backup HDD of the system, as shown in figure 2-19. This feature is only available in the initial or rebuilding process.

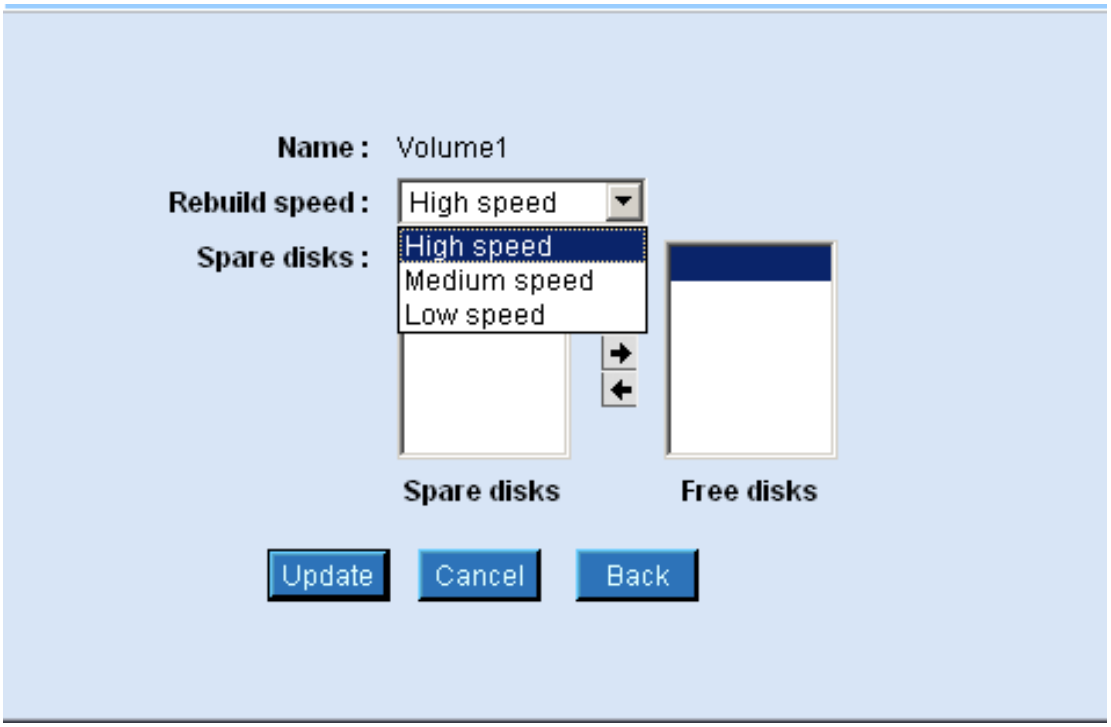


Figure 2-19 Modifying Storage Volume

2-14 Enabling Windows Network Service

The last item in the Configuration process is Network Setup. Click on the Network Setup on the Menu area. This will display the set up features for the different type of clients. The example below is to set up Windows clients. Click on the Windows tab and it will display the screen for setting Windows Clients “Enable Windows Network Settings.” The settings screen is shown in figure 2-20.

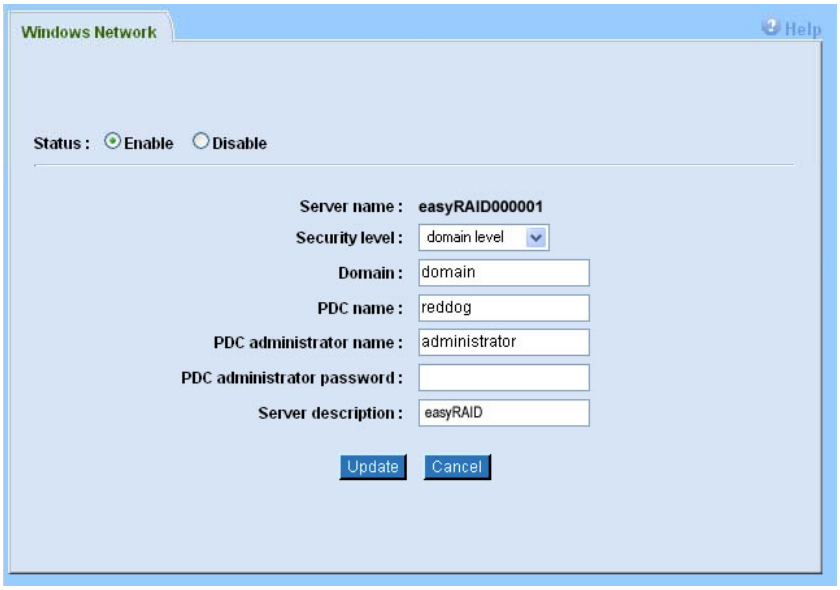


Figure 2-20 Windows Network Settings

The system supports Windows SMB network communication protocol, to enable data sharing between clients with Windows related operating platforms. This page provides settings for related parameters.

Figure 2-21 shows the pop-up screen after selecting “Update” button.

Figure 2-21 Windows Network Settings Updated Successfully

If Windows Network Service is not being used in the system, select disable for this option. Then select a desired network type from ”Network Setup”.

1. Status

To enable Windows network service, please select “Enable”

2. Security Level

Select any of the following security levels for applying to the system:

1. User Level: All system user accounts must be created within the system. The system administrator must manually create each user and assign a password, as well as set a privilege level for accessing shared folders in a storage volume.

2. Domain Level: If the network environment is to access user information via a Windows NT Server, Windows Server 2000 or Windows Server 2003 Primary Domain Controller (PDC), the system will automatically obtain the user names and passwords from the PDC. As shown in figure 2-22, the pop-up screen after setting the security level as “Domain Level” and clicking the “Update” button.

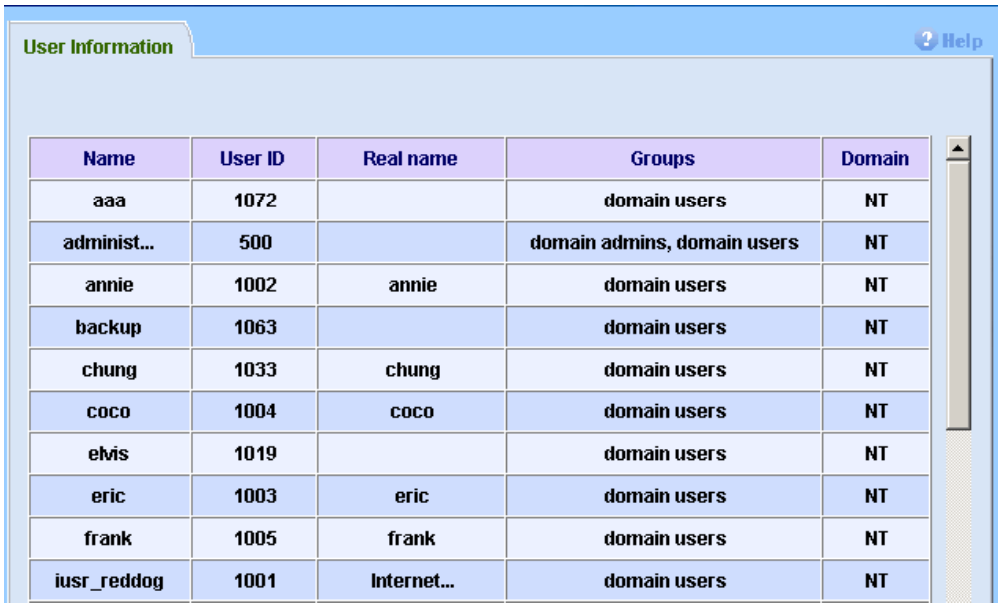

User Information
Help
Name
User ID
Real name
Groups
Domain
aaa 1072 domain users NT
administ... 500 domain admins, domain users NT
annie 1002 annie domain users NT
backup 1063 domain users NT
chung 1033 chung domain users NT
coco 1004 coco domain users NT
elvis 1019 domain users NT
eric 1003 eric domain users NT
frank 1005 frank domain users NT
iusr_reddog 1001 Internet... domain users NT

Figure 2-22 Domain Level Settings

3. Workgroup

Input a workgroup name in this field. The workgroup is the one in which you would like to add the system in the Windows network environment.

4. PDC Name (For Network Level Only)

If Domain Level is used for security level, it is necessary to know PDC name and type it in this field.

5. PDC Administrator Account

If Domain Level is used for security level, enter PDC administrator account here, e.g. Administrator.

6. PDC Administrator Password

If Domain Level is used for security level, enter PDC administrator password here.

7. Complete Configuration Process

When Windows Security Level settings are done, click “Update and Next” button to complete all settings in the menu.

8. Other Network Clients

Refer section 3-5-3 for Unix Clients, section 3-5-4 for Apple Clients, section 3-5-5 for FTP clients.

The system configuration is done now and is ready to serve online as a network attached storage device with redundant HDD array.

Chapter 3

Using Administrative Tools for Administrator

easyRAID NAS System administrative tools for administrator can be accessed completely via web browser. Its powerful menu allows the administrator to complete system configuration settings and manage the system easily.

Using “System Menu” to set and control the system is covered in this chapter.

3-1 Login

Enter the IP Address via a web browser and get into the configuration settings of easyRAID NAS System network HDD array.

To look up the IP Address of the system, the administrator can directly view the displayed contents from the system control panel.

The default user name and password of the server administrator.

User Name	nasroot
Password	00000000 (8 consecutive 0’s)

Password Length: Should not exceed 14 characters, and may include English alphabet. Password is case-sensitive. The entered password must be identical to the original setting, or you will not be able to login to the system.

3-2 Administrator Login

After a user is logged into easyRAID NAS System as the administrator, he/she will have full privilege over the network HDD array.

Figure 3-1 shows the system option menus that are configurable by the administrator .

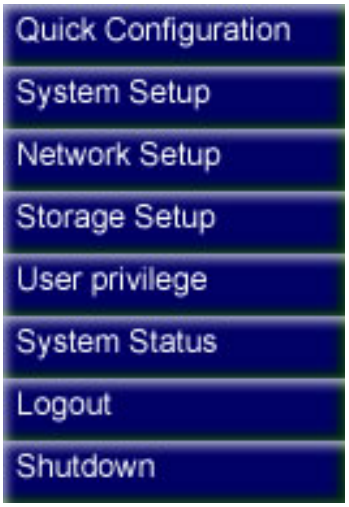


Figure 3-1 Administrator System Option Menus

3-3 Quick Configuration

The system administrator can set primary parameters of easyRAID NAS System by using this menu, hence enable basic system operations. Each setting is enabled by hitting the update & next button. If no changes are required, then step to the next screen by hitting the “next” button. For more details about settings, please refer to chapter 2 and related chapters.

3-4 System Setup

This menu is used to change related parameter settings. Figure 3-2 is the overview of System Configuration.

Server name	easyRAID000001
Display language	Browser Default Language
Windows 95/98 client code page	Multilingual Latin 1(850)
Mac PreOS9.X client code page	Multilingual Latin 1(850)
Date	05/05/2004 10:45:01
Time zone	Europe/London

Figure 3-2 System Settings Overview

The system settings menu is as shown in figure 3-3.

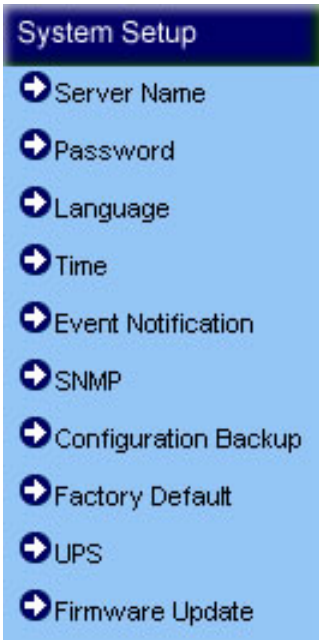


Figure 3-3 Options of System Settings Menu

3-4-1 Server Name

Figure 3-4 shows the server name setting screen.

Figure 3-4 Server Name Setting

3-4-2 Password

It has allowed the administrator to change the password for entering system administrative page. Please refer to figure 3-5.

Figure 3-5 Server Password Setting

To change system password, a user must type exactly the original system password. And then type the same new password twice to successfully change the system login password.

Password Length: Should not exceed 14 characters, and may include English alphabet. Password is case-sensitive. The entered password must be identical to the original setting, or you will not be able to login to the system.

3-4-3 Language

The system language menu option offer 6 different choices; they are Web-browser default, English, Traditional Chinese, Simplified Chinese, Japanese and Korean.

The administrator should set the language option as the same language as the one currently used by OS.

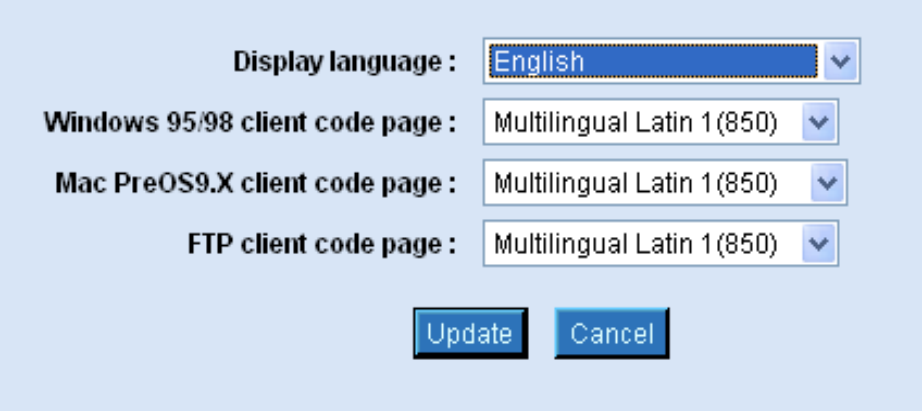


Figure 3-6 Language Setting Screen

Note that you would better modify the codepage to suit environment of your Windows 95/98 clients, Mac PreOS9.x clients and FTP clients to against unexpected data access problems. A wrong codepage setting may result in problems when accessing data on cross platforms in between.

3-4-4 Time Setting

Please refer to section 2-11 of the manual to set time, date, region, and city as well as NTP (Network Time Protocol) option.

3-4-5 System Event Reports

Figure 3-7 shows event reports option. The administrator may set up to 3 e-mail addresses here by using this option. When any system event occurs, it will automatically send a warning e-mail message to all 3 e-mail addresses.

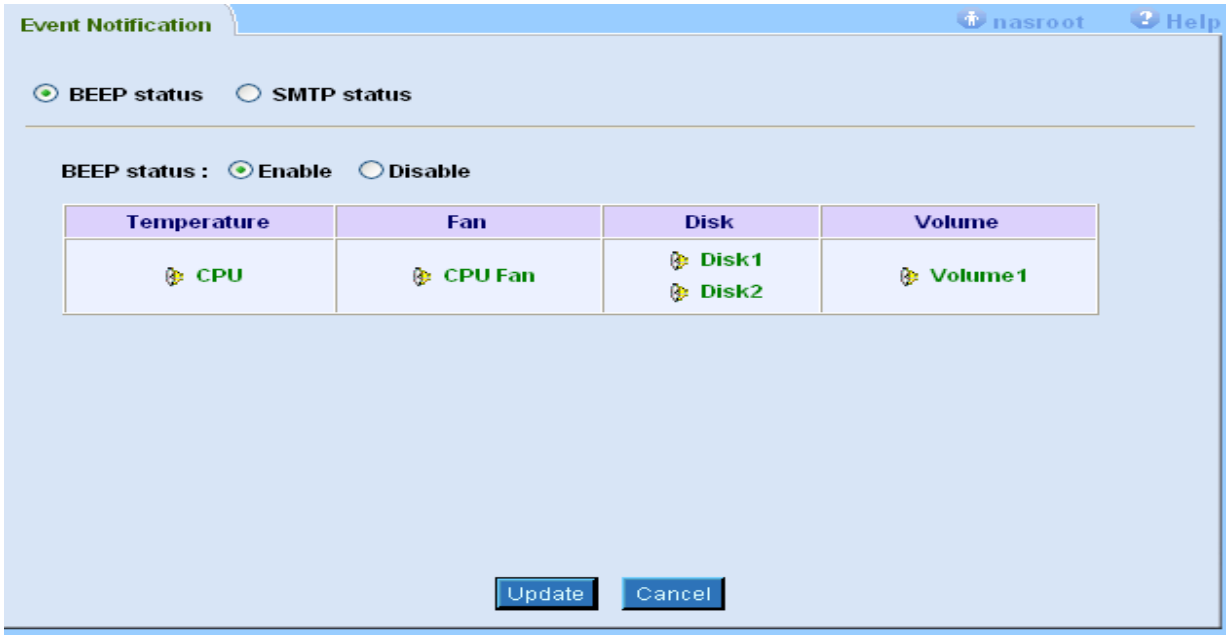


Figure 3-7 Event Reports Screen

To use the event reports option, the followings must be set first:

1. BEEP Status: By default, “Enable” option is selected. When event occurs, the system sends a “beep” to notify the administrator.

2. SMTP Status: To enable automatic message delivery, select “Enable” option.

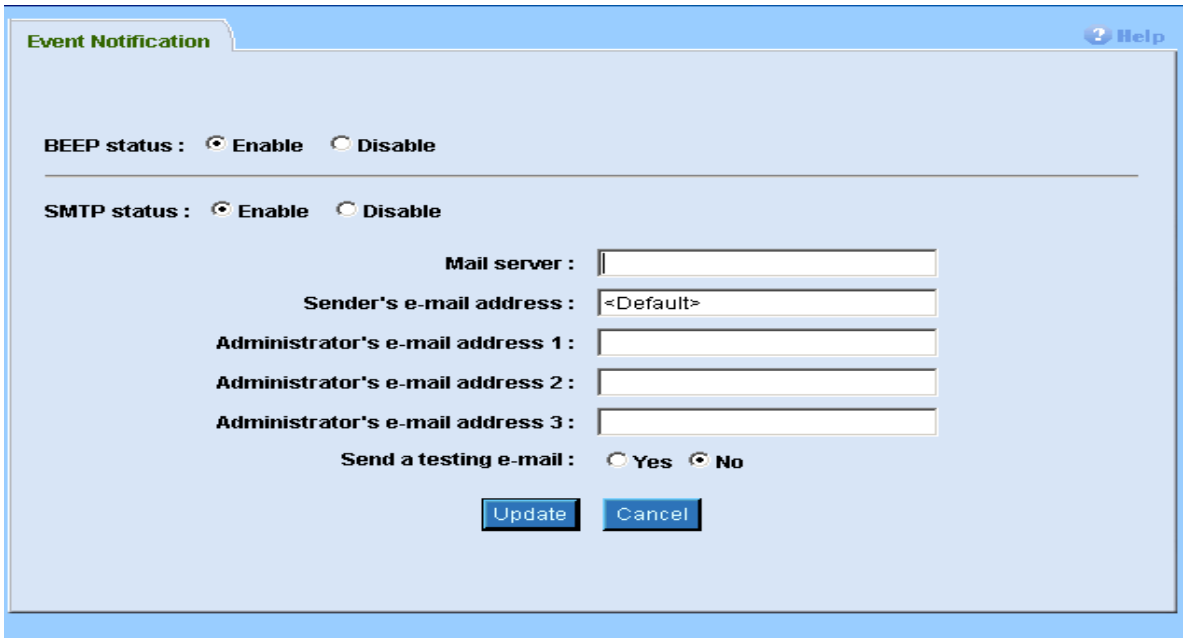


Figure 3-8 SMTP Status Settings

If “Sender E-Mail Address” is not set and “Default” is used, messages will be transferred by easyRAID E-Mail to “E-Mail Address 1~3 of The Administrator.” It is recommended to change “Default” to the E-Mail Address of The MIS Administrator.

3. Mail Server Address: Enter the IP Address of SMTP server and the mail server name.

4. E-Mail Address 1~3 of The Administrator: Enter e-mail addresses of the administrator here. The system will automatically send out system messages to the e-mail addresses that you have set.

5. Send a Test E-Mail: If “Yes” is selected, the system sends a “test” e-mail to the configured e-mail addresses after “Update” button is clicked to make sure proper delivery of report messages.

Figure 3-9 Send a Testing E-Mail

After select “Yes” for “Send a Test E-Mail”, click “Update”. A test e-mail will be sent to the configured e-mail addresses owner.

Figure 3-10 Testing E-Mail Sent Screen

3-4-6 SNMP Settings

Figure 3-11 shows the SNMP Settings screen.

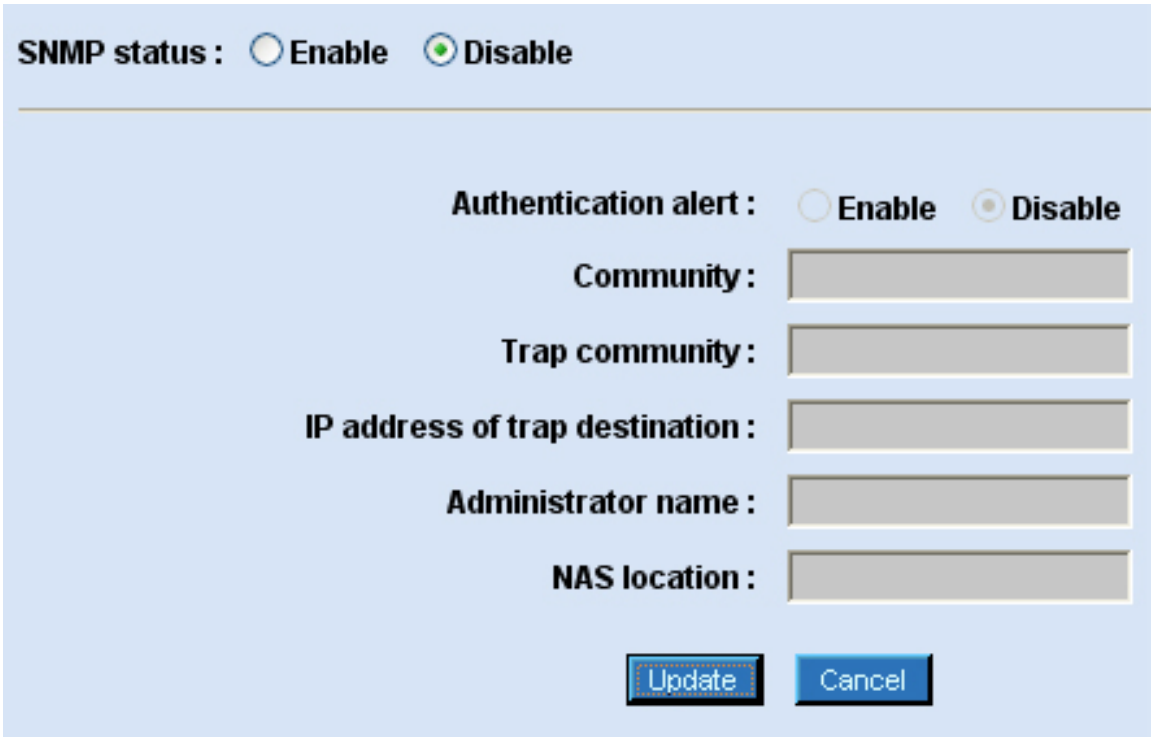


Figure 3-11 SNMP Settings

To enable SNMP, the following parameters are required:

1. SNMP Status: To use SNMP function, set its status as “Enable.”
2. Authentication alert.
3. Community: Enter a NAS community name.
4. Trap community: Enter a trap community name.
5. IP address of trap destination: The IP address of trap receiving end to receive all notifications.
6. System Administrator name: Enter a SNMP system administrator name of the system. The name does not have to be the same as the system administrator.
7. NAS location: Enter an easily identifiable NAS location.

3-4-7 System Configuration Backup

As shown in figure 3-12, the administrator is allowed to backup or restore configuration settings of the system.

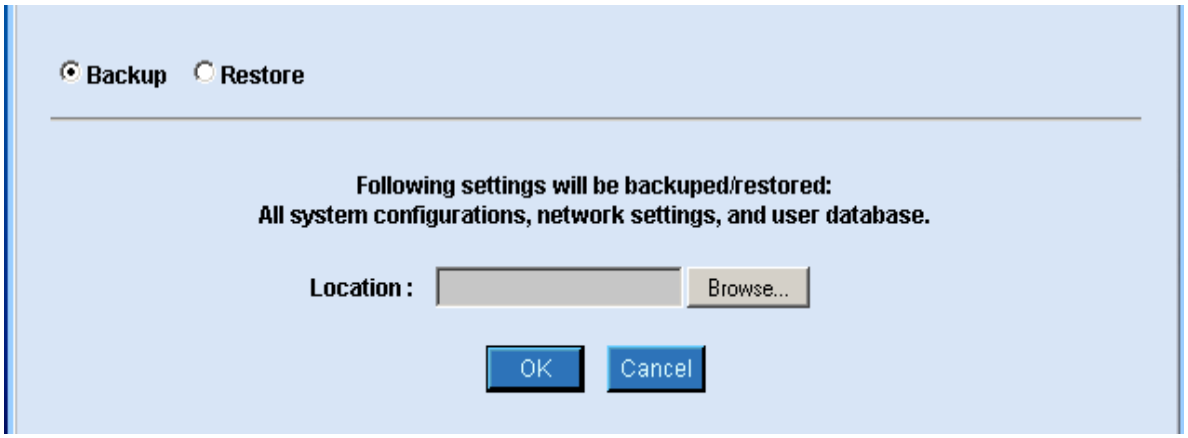


Figure 3-12 Backup and Recovery of System Settings

The administrator may make backup or restore previous configuration settings to/from a file.

These are includes:

1. Contents of Raid Configuration
2. Settings of NFS
3. Settings of Windows SMB
4. Settings of Apple Talk
5. Settings of FTP
6. User Database (including user name, password, quota, and group)

> When the system administrator has completed all settings and layouts, it is strongly recommended to make a backup and store it for emergency situations.

When “OK” is clicked (figure 3-12), the system prompts a dialog box, as shown in figure 3-13, and asks for the administrator password.

Figure 3-13 Enter Password

Enter the “User Name” of administrator in associated field, and enter the password in “Password” field to complete backup (or restore) system settings. This will now save a backup file to the HDD of the computer in which the administrator is using to access the NAS. This is usually in the form of “NameofNAS_config.bin”

When backing up settings of the system, a directory must be specified to save backup files. When restoring system settings, the directory must be provided to access backup files. This is accessed by selecting the restore button and hitting the browse button. When the file is located, selecting the file and click OK. This will show up on the location window. Clicking OK button will restore the previous configuration.

3-4-8 Restore Default Settings

Figure 3-14 shows the menu to restore default settings.

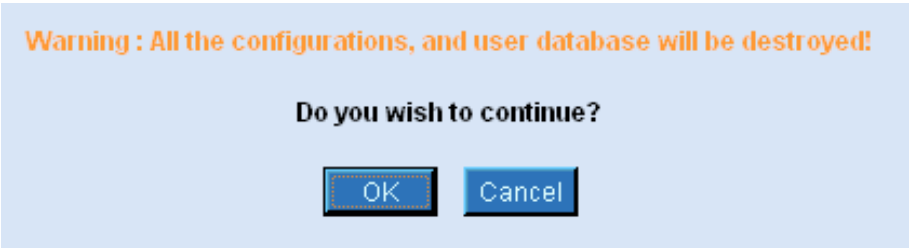


Figure 3-14 Restore Default Settings

This option reverts to the factory default settings of the system. Before proceeding with this option, please be sure to perform backup of the configuration file. Otherwise,

all settings (e.g., groups, users, user quotas, user privileges, network settings) will be erased and reset to default values. This will only happen if the drives are still installed. If the drives have been removed, this process will only refresh the NVRAM. This has the action of making the unit like a brand new system. When the drives are re-inserted, the configuration will be restored from the drives set. Otherwise, a restore function from a backup file is required.

All system settings, groups, users, user quotas and privileges will be erased.

Once this option is confirmed and executed, there is no way to retrieve any previous data except from a saved backup file

3-4-9 Using UPS for System

The UPS setting screen of the system is shown in figure 3-15.

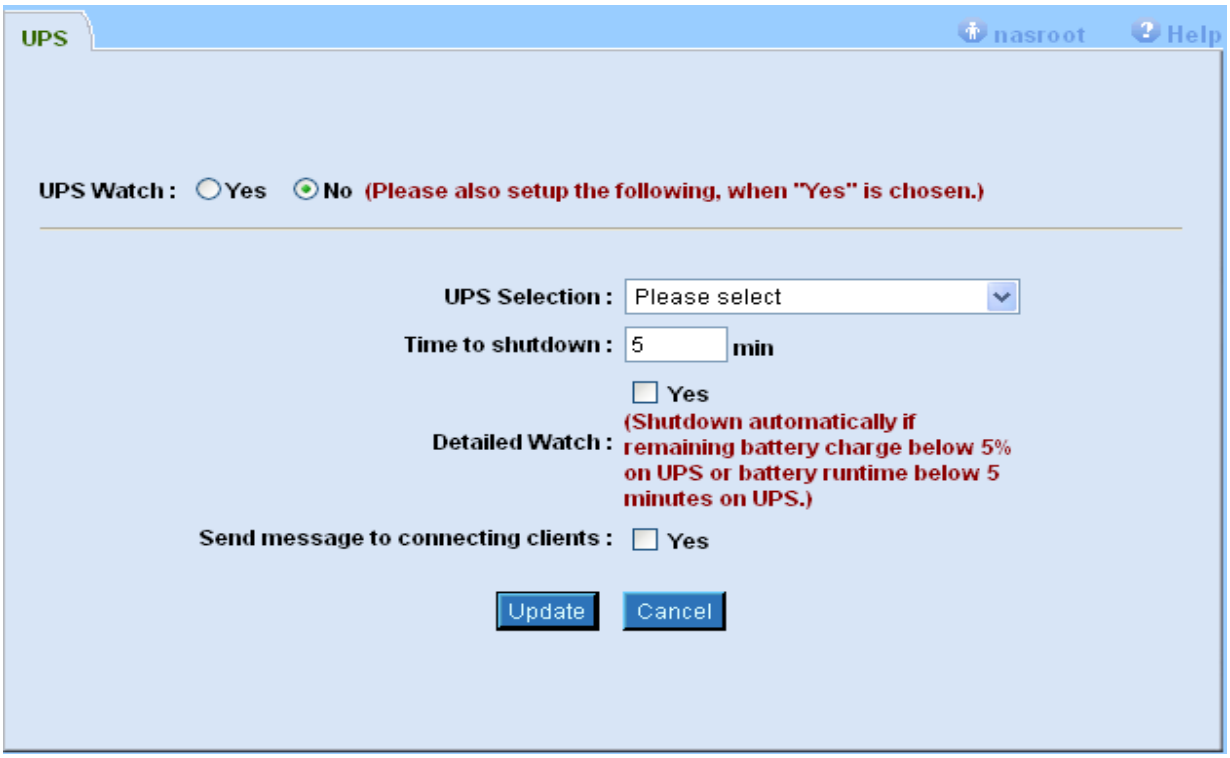

UPS
nasroot
Help
UPS Watch : Yes No (Please also setup the following, when "Yes" is chosen.)
UPS Selection : Please select
Time to shutdown : 5 min
Detailed Watch : Yes
(Shutdown automatically if remaining battery charge below 5% on UPS or battery runtime below 5 minutes on UPS.)
Send message to connecting clients : Yes
Update
Cancel

Figure 3-15 UPS settings

This page provides tools to configure the easyRAID 420GT to monitor [APC Back-UPS ES 500(RS232) and Smart series] device.

- UPS Watch : This radio button group enables/disables UPS watch function of the system.
- UPS Selection : The system supports [APC Back-UPS ES 500(RS232) and Smart series].
- Time to shutdown : If the UPS watch option is enabled, the default delay of shutdown is 5 minutes. Otherwise, the system will be shutdown immediately when a power loss has been detected.
- Detailed Watch : If this option has been set to "Yes", the system will shutdown automatically if remaining battery charge falls below 5% on UPS or battery runtime is below 5 minutes on UPS, which either comes first.
- Send message to connecting clients : If this option has been set to "Yes", the system will send message to connecting clients when each power event has been detected.
- Update : The system saves all changes if this button is pressed.
- Cancel : The system skips all the modifications if this button is pressed.

3-4-10 System Firmware Upgrade

The firmware upgrade screen of the system is shown in figure 3-16.

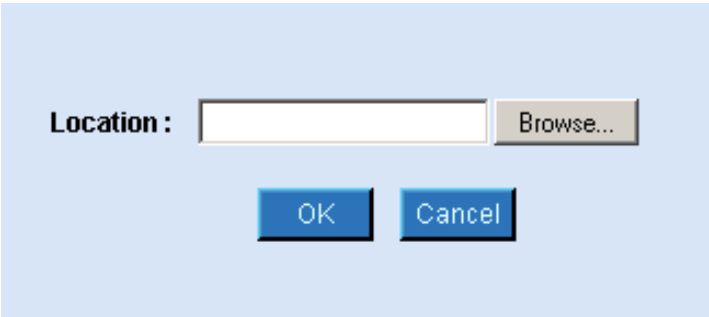


Figure 3-16 Firmware Upgrade

The administrator may acquire the latest version of firmware and save to a local HDD. By using this menu option, provide the file location to the system and complete firmware upgrade.
Please contact your local dealer regular to acquire the latest version of firmware. The file will be in a form that looks like “1.01k-NAS System.bin”. Locate the file using the Browse button and click “OK”. It will update the firmware automatically and when completed, the unit will ask you to reboot.

3-5 Network Settings

Network option menu is used to set related network parameters of the system. Figure 3-17 shows current network status of the system.

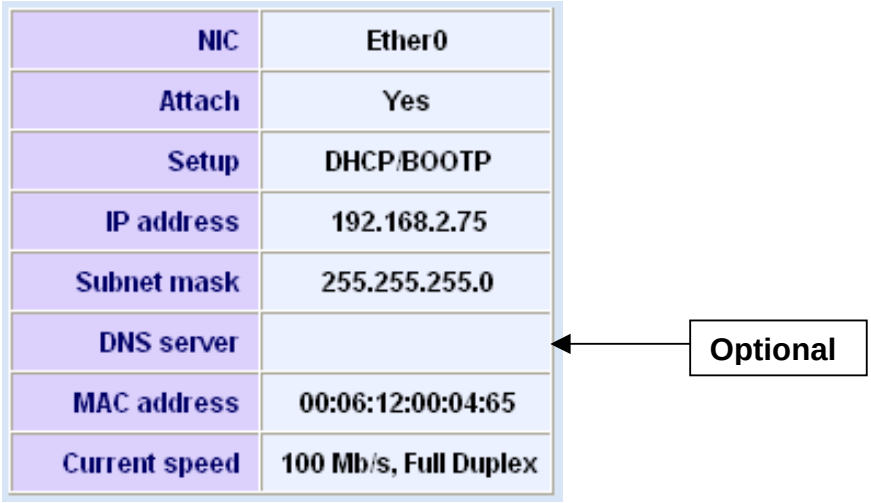


Figure 3-17: Network Status Display

The displayed contents of each network interface include:

1. Attach : Display connection status of network interface.
2. Setup : Display IP Setting Type of network interface, manual or automatic (using DHCP/BOOTP).
3. IP Address : Display the IP Address of network connection.
4. Subnet mask : Display settings of sub network mask.
5. DNS server : In general, no need to set. (Optional)
6. MAC address : Display the address of MAC layer.
7. Current speed : Normally is 100~1,000 Mb/s, differentiated by Switch.

The contents of network settings menu is shown in figure 3-18.

Figure 3-18 Network Settings Menu

3-5-1 Basic Settings

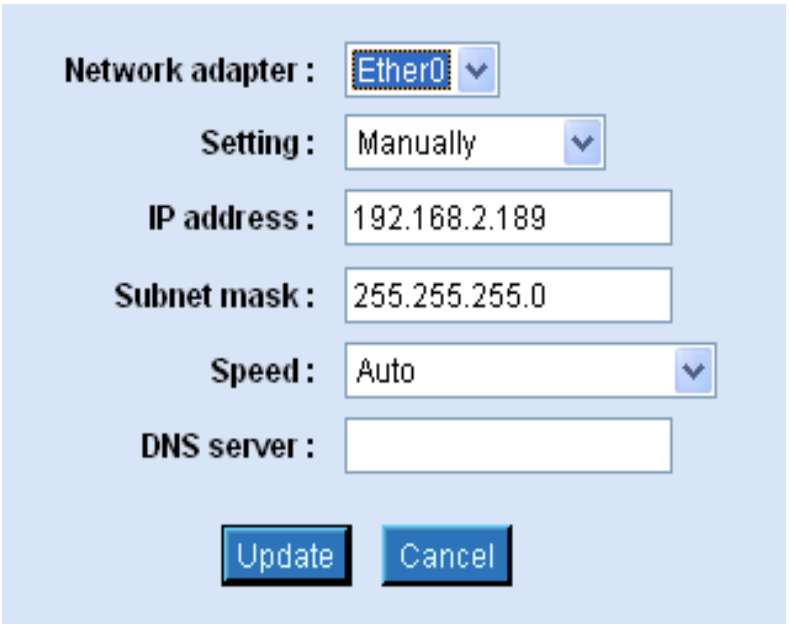


Figure 3-19 Network Basic Settings

Display the original network settings. Selecting the “Update” button will save the changes. This can be changed at any time but rebooting is required to activate changes. This can also be changed via the LCD panel on the unit itself.

Selecting “Cancel” button will not save any changes made.

3-5-2 Windows

The system supports Windows SMB network communication protocol to enable data sharing between clients with Windows related operating platforms. Please refer to section 2-14 for related parameter settings.

3-5-3 Unix

The system supports UNIX compatible operating platforms to enable data sharing between clients with NFS communication protocol. This page provides related parameter settings and is shown in figure 3-20.

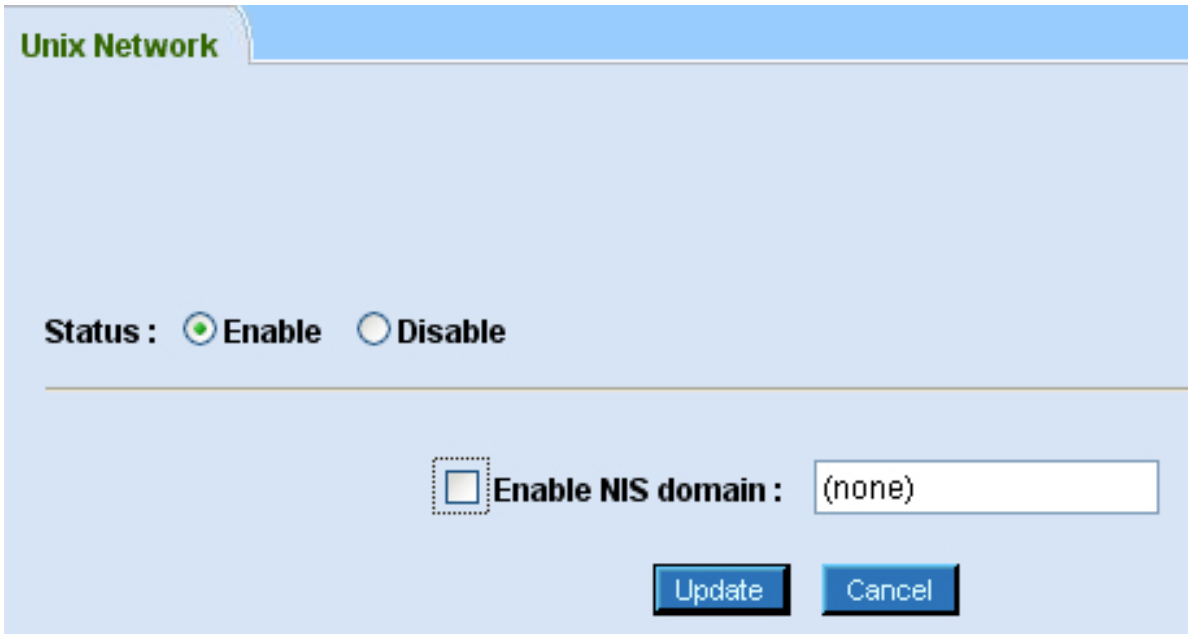


Figure 3-20 Enable UNIX Compatible Network Service

The system provides NIS Client Service to allow itself to be added into the NIS domain. Check the “Enable NIS domain” box to enable it and enter NIS function parameter name. When completed, select “Update” button to save the changes. Select “Cancel” to disregard any changes made.

Select “Share Setup” of “Storage Setup” to make share folder available to Unix/Linux clients as shown in figure 3-21.

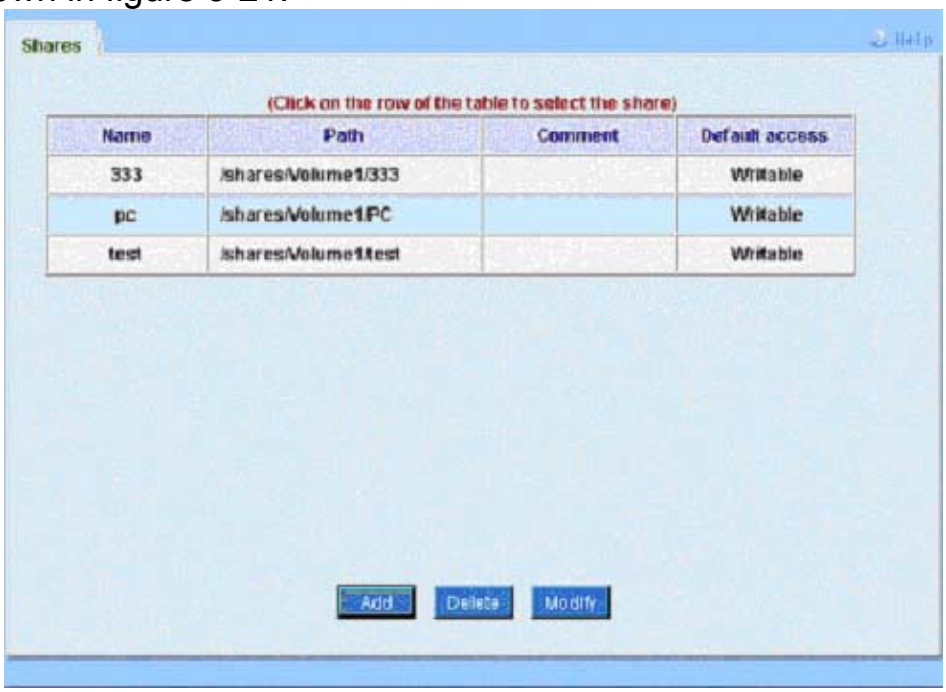


Figure 3-21 Make share folder for Unix/Linux clients

Next, select “Privilege” in “User Privilege” to choose the share folder to be made for Unix/Linux clients, and enable the “Unix” client to add NFS client privileges, see figure 3-22 and 3-23.

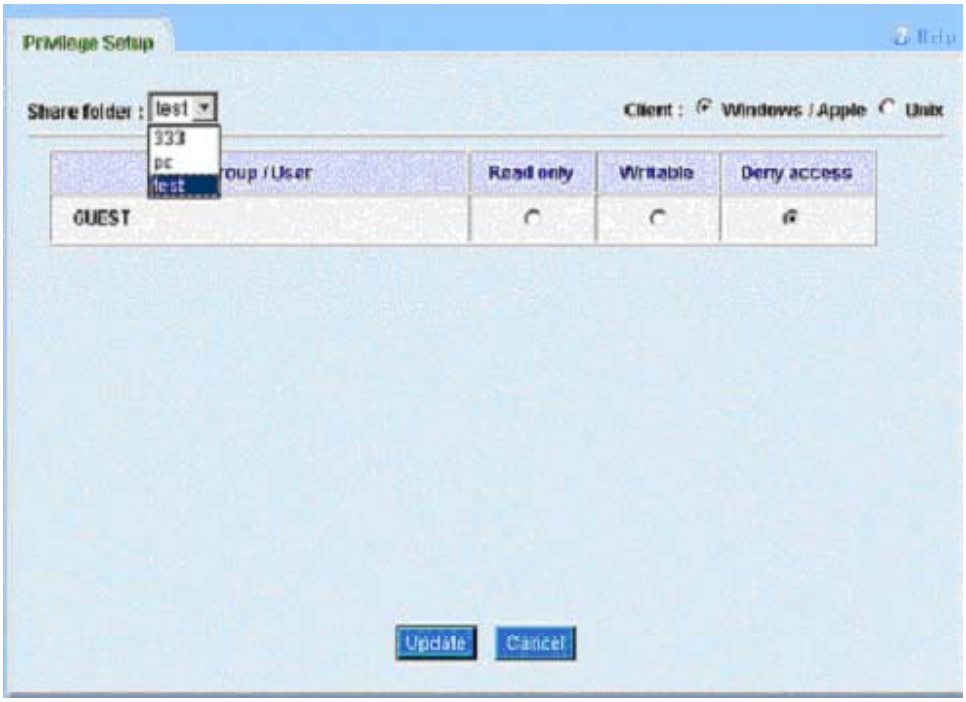


Figure 3-22 Select the folder made for Unix/Linux clients

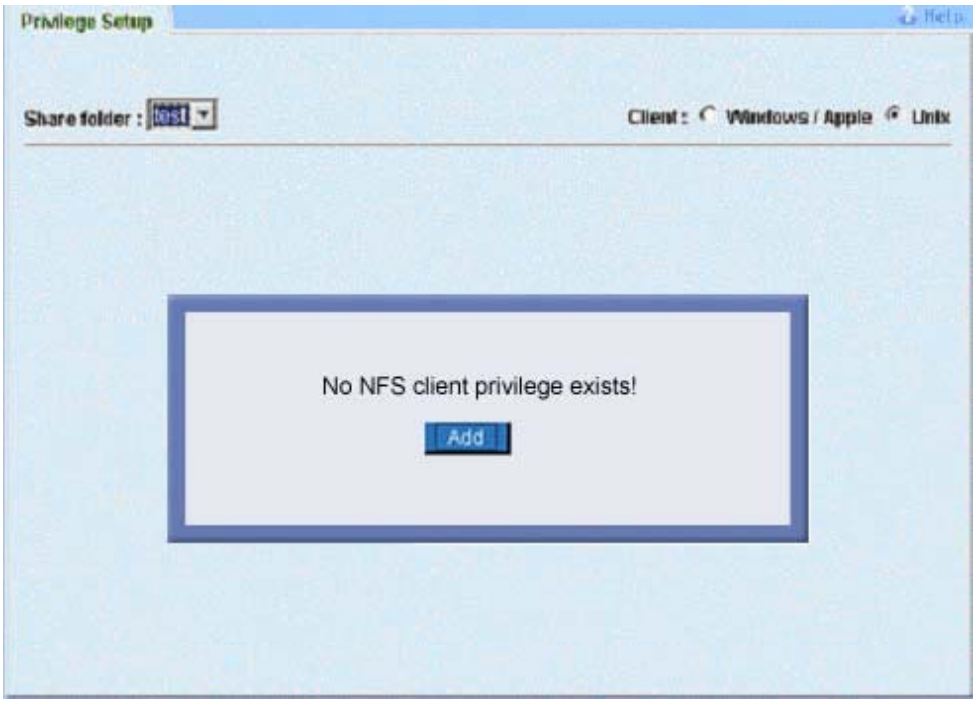


Figure 3-23 Enable the “Unix” box to add NFS privilege

Set up the “Host name”, “Privilege” and “Root access” and the setup is shown in figure 3-24.

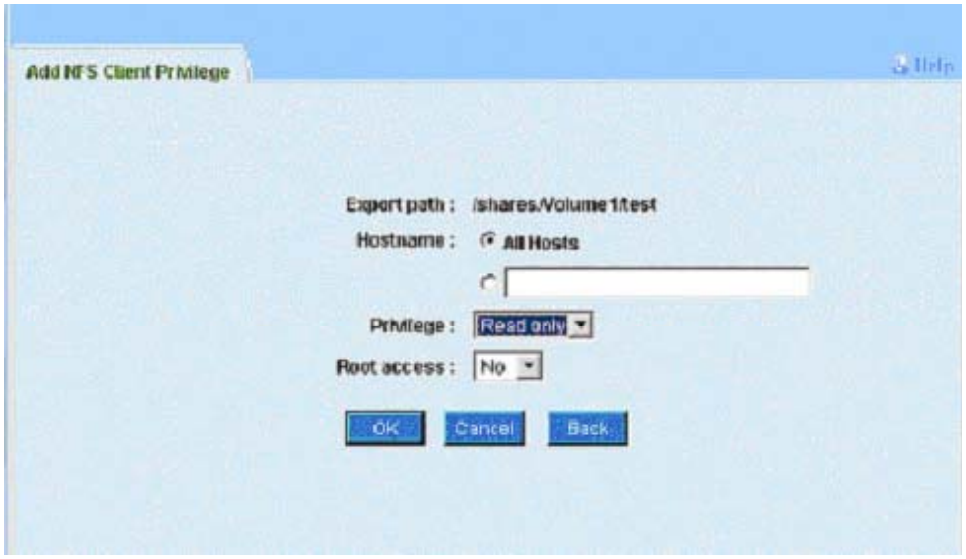


Figure 3-24 Settings of NFS Clients Privilege

Use “mount” command from NFS clients to mount the easyRAID NAS, as shown in figure 3-25.

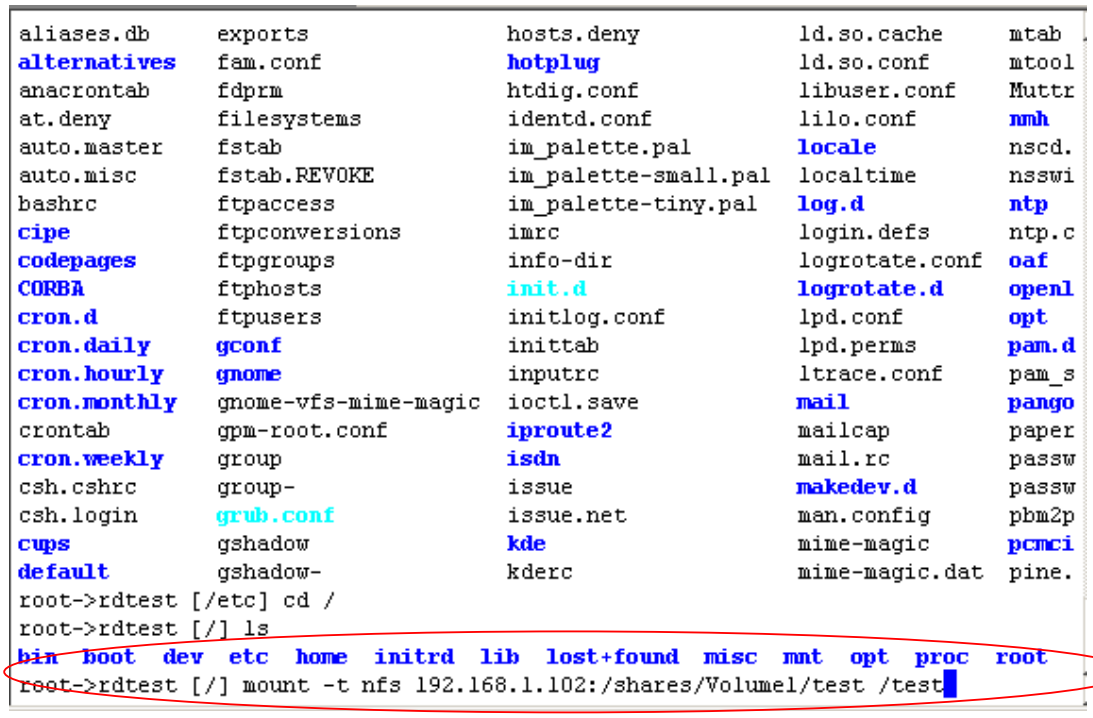

aliases.db exports hosts.deny ld.so.cache mtab
alternatives fam.conf hotplug ld.so.conf mtool
anacrontab fdprm htdig.conf libuser.conf Muttr
at.deny filesystems identd.conf lilo.conf nmh
auto.master fstab im_palette.pal locale nscd.
auto.misc fstab.REVOKE im_palette-small.pal localtime nsswi
bashrc ftpaccess im_palette-tiny.pal log.d ntp
cipe ftpconversions imrc login.defs ntp.c
codepages ftpgroups info-dir logrotate.conf oaf
CORBA ftphosts init.d logrotate.d openl
cron.d ftpusers initlog.conf lpd.conf opt
cron.daily gconf inittab lpd.perms pam.d
cron.hourly gnome inputrc ltrace.conf pam_s
cron.monthly gnome-vfs-mime-magic ioctl.save mail pango
crontab gpm-root.conf iproute2 mailcap paper
cron.weekly group isdn mail.rc passw
csh.cshrc group- issue makedev.d passw
csh.login grub.conf issue.net man.config pbm2p
cups gshadow kde mime-magic pcmci
default gshadow- kderc mime-magic.dat pine.
root->rdtest [/etc] cd /
root->rdtest [/] ls
bin boot dev etc home initrd lib lost+found misc mnt opt proc root
root->rdtest [/] mount -t nfs 192.168.1.102:/shares/Volume1/test /test

Figure 3-25 Mount the NAS file system from NFS clients

mount: command to mount file system
-t nfs: indicate the file system type to NFS
192.168.1.102: the IP address of NAS
:/shares/Volume1/test: the path of the share folder made for NFS clients on NAS system
/test: refers to the root of the file system on device

Use “df” to check the mounted device, as shown in figure 3-26

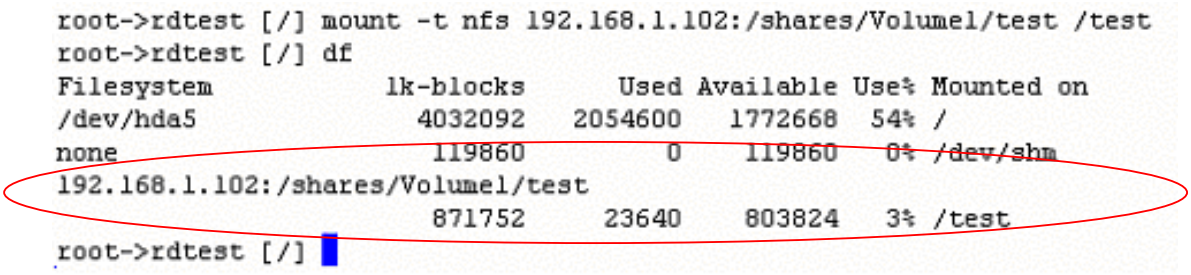

root->rdtest [/] mount -t nfs 192.168.1.102:/shares/Volume1/test /test
root->rdtest [/] df
Filesystem 1k-blocks Used Available Use% Mounted on
/dev/hda5 4032092 2054600 1772668 54% /
none 119860 0 119860 0% /dev/shm
192.168.1.102:/shares/Volume1/test
871752 23640 803824 3% /test
root->rdtest [/]

Figure 3-26 check the mounted device

Use “umount” to dismount the NAS system, as shown in figure 3-27

```
root->rdtest [/] umount /test
root->rdtest [/] df
Filesystem           1k-blocks      Used Available Use% Mounted on
/dev/hda5              4032092   2054604   1772664  54% /
none                    119860         0    119860   0% /dev/shm
root->rdtest [/]
```

Figure 3-27 Dismount the NAS system

3-5-4 Apple

The system supports Apple Talk communication protocol to enable data sharing between clients with Mac OS operating platform. This page provides settings of related parameters and displays in figure 3-28.

When Apple Talk network service is enabled, the administrator must provide a zone name. When completed, select “Update” button to save the changes. Select “Cancel” to disregard any changes made.

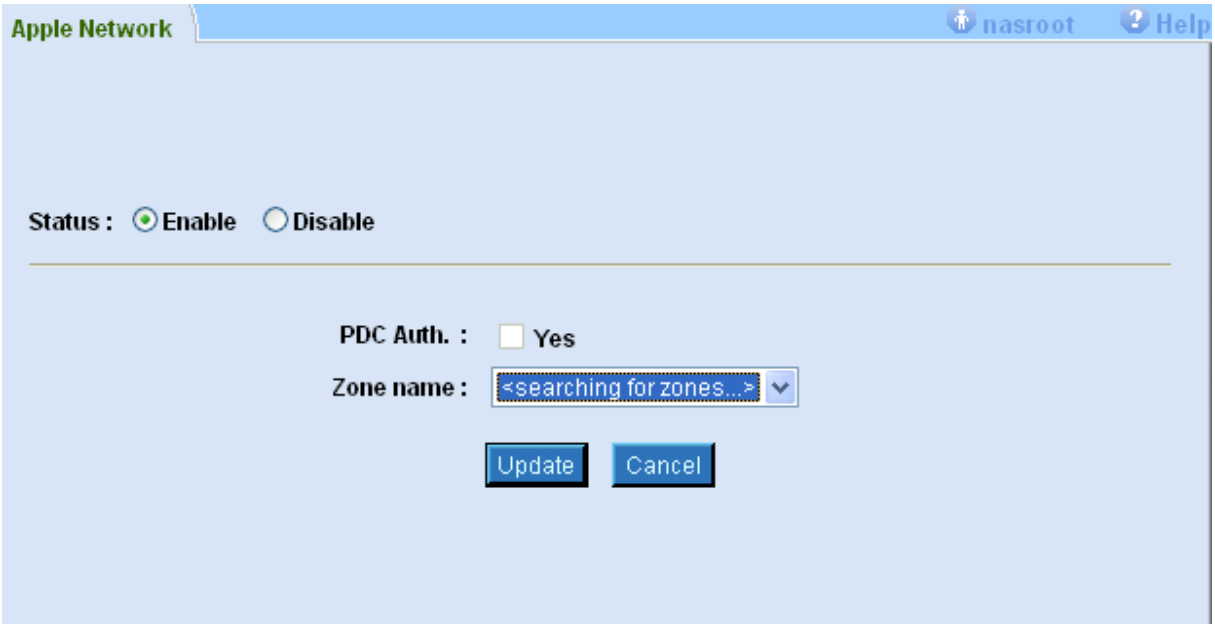


Figure 3-28 Enable Apple Network Service

3-5-4-1 OS 9.2.2

1. Setup the “TCP/IP” of “Control Panels”, as shown in figure 3-29.

Figure 3-29

2. If there is a DHCP server, turn on the DHCP and make sure the setup of IP section and Subnet mask is the same as the NAS system, as shown in figure 3-30

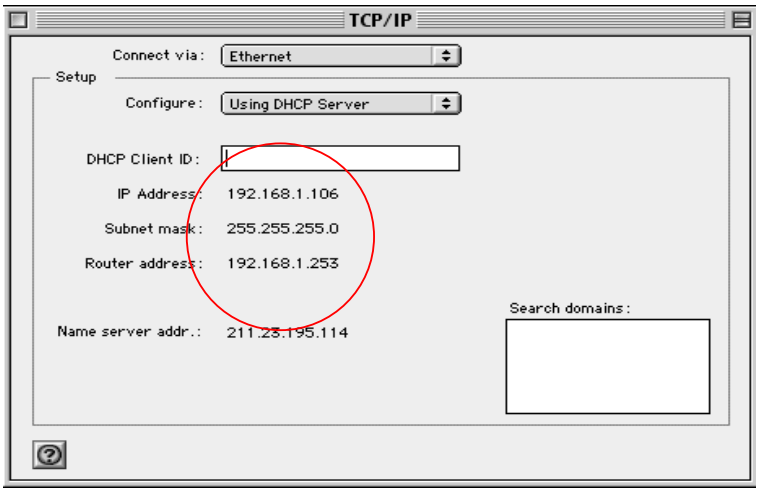


Figure 3-30

3. Please click on the Apple Icon on the top left hand corner and select the “Chooser” to connect to the NAS as shown in figure 3-31

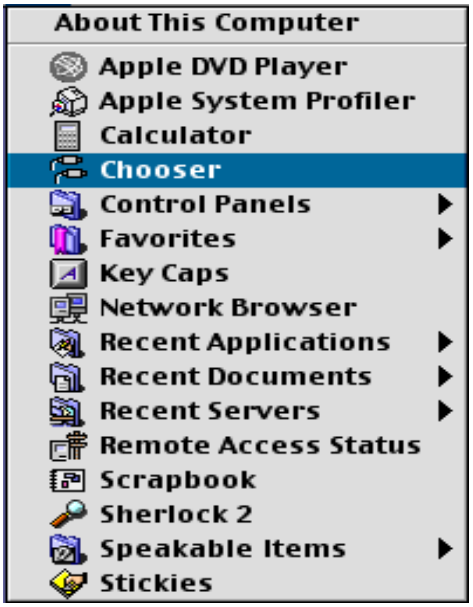


Figure 3-31

4. After selecting the Chooser, please select AppleShare and you can see the “Select a file server” at the right-hand side. Please note that you must select “Active” for AppleTalk which is located at the bottom right-hand side. Otherwise, you won't be able to see the computer server name in the right side as shown in figure 3-32

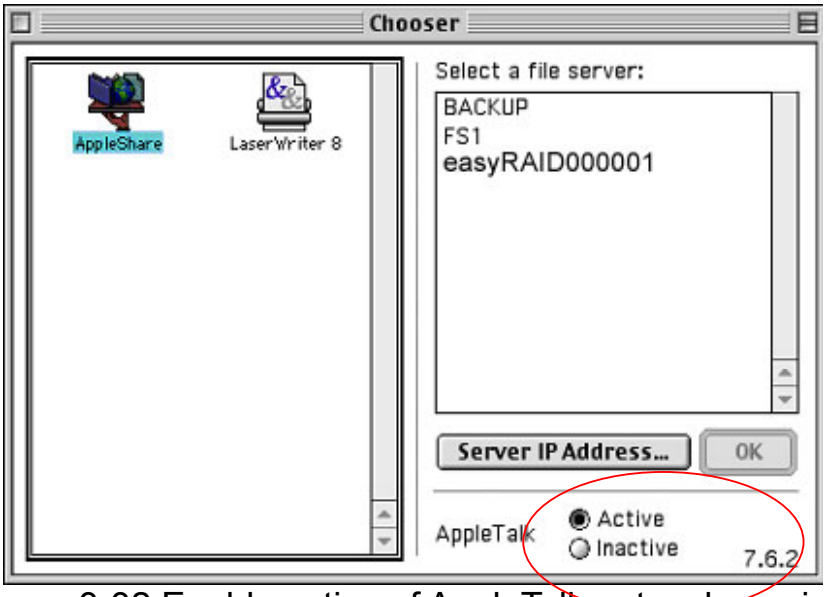


Figure 3-32 Enable active of AppleTalk network services

5. Select the appropriate server by highlighting it and click the OK button in figure3-33

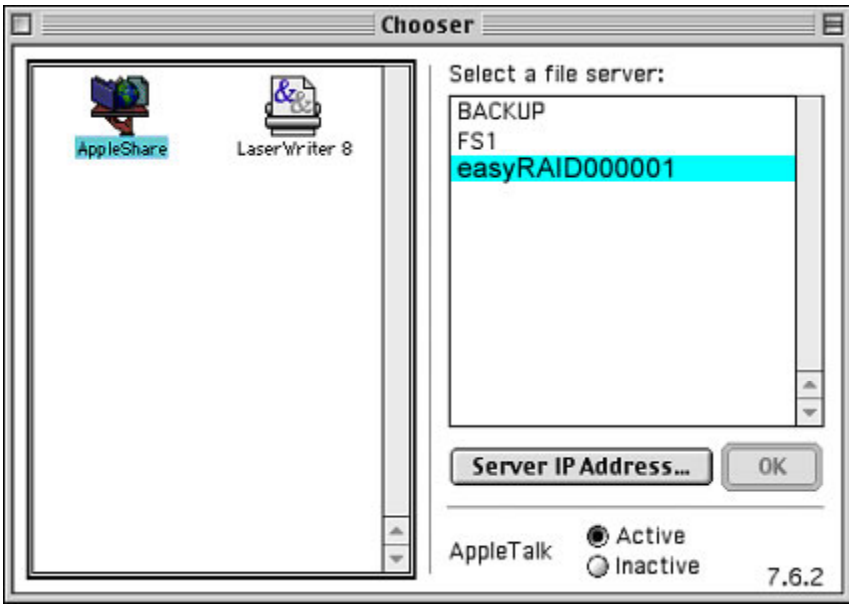


Figure 3-33

6. Please select how you would like to login, that is as a “Guest” or as a “Registered User”. If "GUEST" is selected as the preferred login in the NAS, then you can use "GUEST" as your login name as shown in figure 3-34

Figure 3-34

7. Entering the NAS as a GUEST, the status will elect the share table of contents as shown in figure 3-35

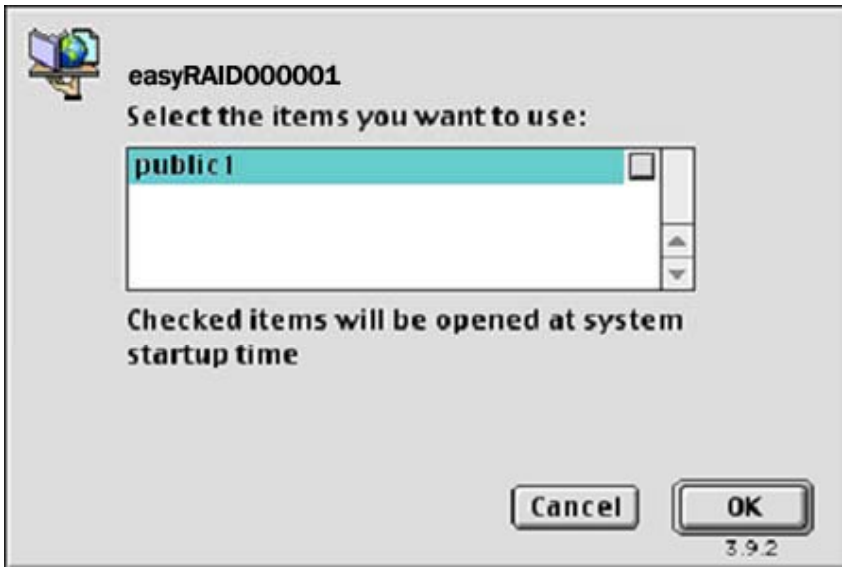


Figure 3-35

8. After selecting the items required, you will see the shared folder as a server icon on your desktop as shown in figure 3-36。

Figure 3-36

9. Click on the shared item, use the command key (which is located next to the space bar) + “I” (Command + I or “Get Info” Short Cut) to check the share item condition (figure 3-37). You can see it is using TCP/IP mode as red zone's connecting method, and at the ICON, it will show an earth icon at the bottom of the disk drive

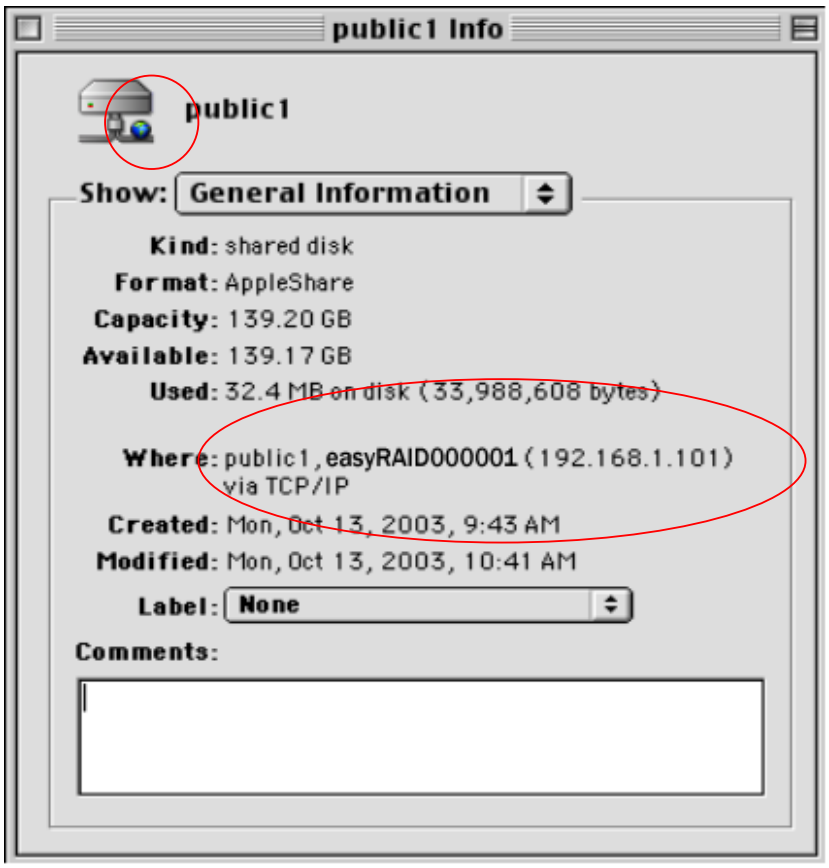


Figure 3-37

3-5-4-2 OS X

1. Set up the Network settings from the “System Preferences”. As shown in figure 3-38.

Figure 3-38 Network Settings of System Preferences

2. Make sure that the IP section is the same as the NAS system. Otherwise, the performance will be impacted. See figure 3-39.

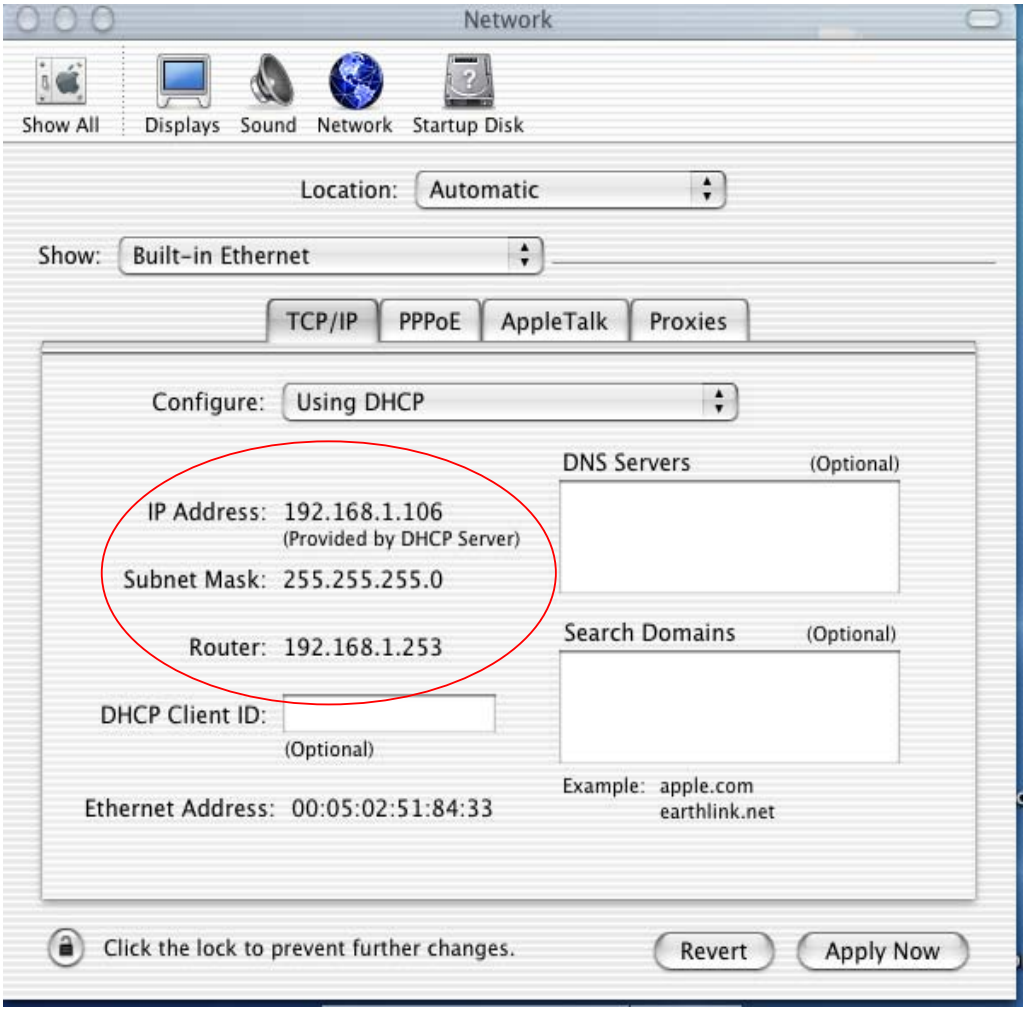


Figure 3-39 Status of DHCP

3. Enable the “Make AppleTalk Active” box by checking it with a ‘tick”, as shown in figure 3-40.

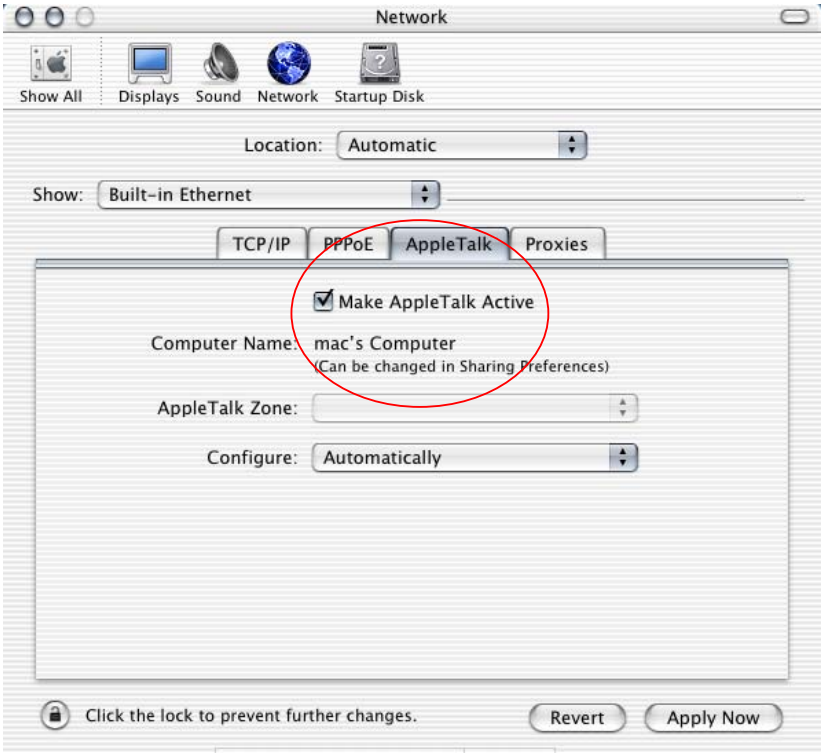


Figure 3-40 Settings of AppleTalk

The name of the Server will appear on the left side of the screen of “Connect to Server” as Shown as figure 3-41. In this case, the top icon in the “Connect to Server screen”.

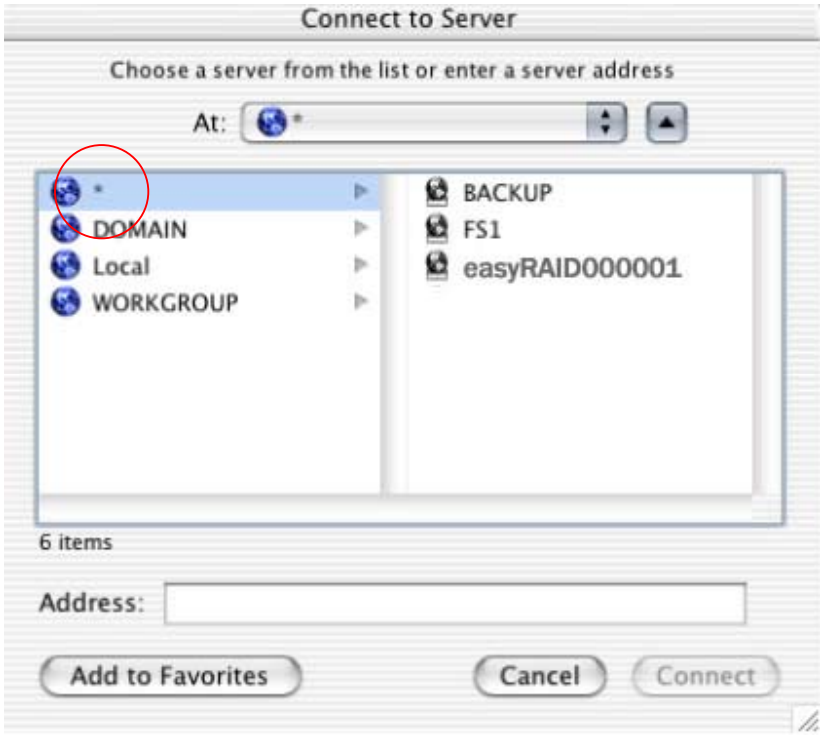


Figure 3-41 Connect to Server with AppleTalk

If “Make AppleTalk Active” is unchecked as shown in figure 3-42, the screen of “Connect to Server” will look like figure 3-43; The Server icon and name will not appear to enable AppleTalk connection.

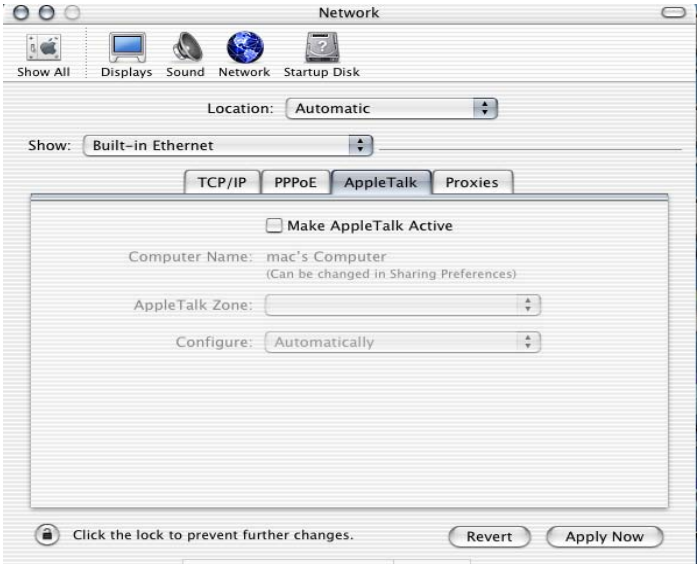


Figure 3-42 Default of OS X

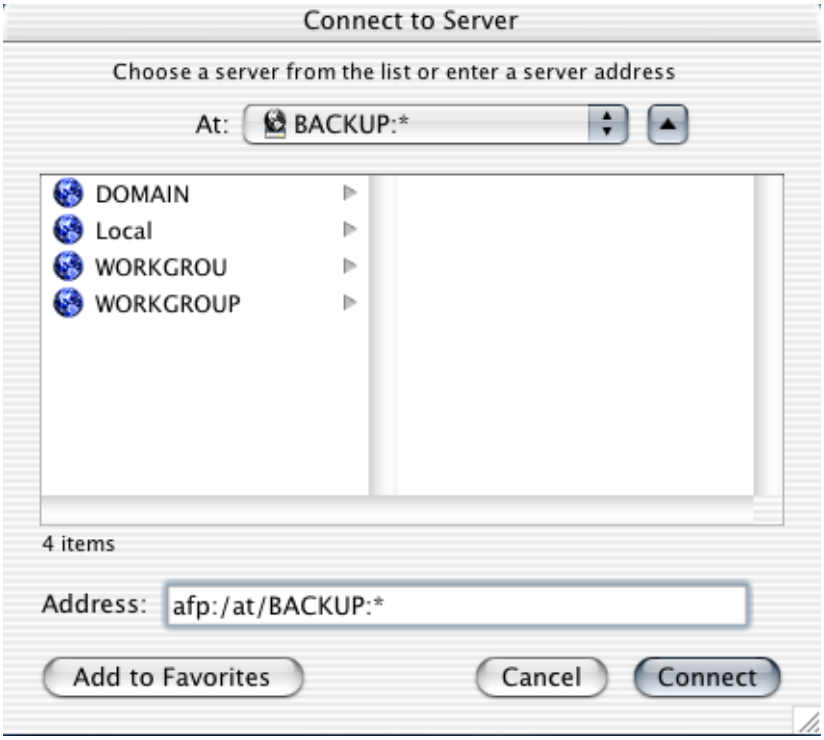


Figure 3-43 Connect to Server without AppleTalk

4. Select “Connect to Server” from “Go” on the top function bar of OS X, as shown in figure 3-44. There are two type of protocol to connect to the server; AppleTalk and SMB. A higher performance of network transmission is possible with AppleTalk than using SMB. Click “∗” on the “Connect to Server” screen and you will see the server name on right side of the window, as shown on figure 3-45.

Figure 3-44

Figure 3-45

5. Click the name of NAS system to highlight it, the AFP connect type will been shown in bottom of the screen, as shown in figure 3-46.

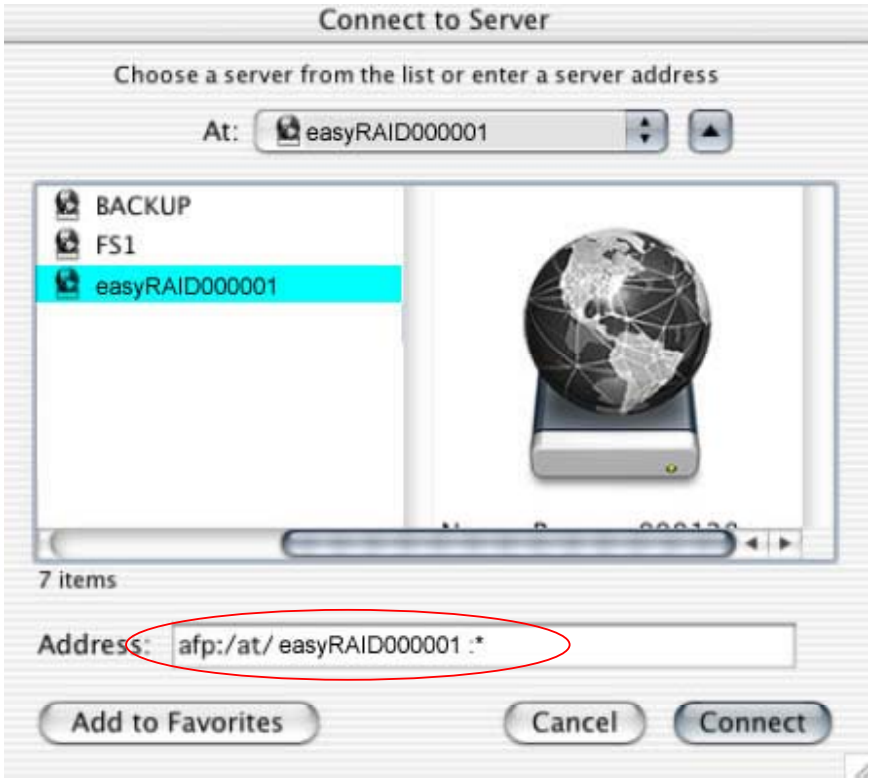


Figure 3-46 Connect to NAS system by AppleTalk

6. Click on the “Connect” button and the log on screen will appear, as shown in figure 3-47. Log-in as your user name and password assigned by the Administrator.

Figure 3-47

7. Then the volume of NAS system will be shown as figure 3-48.

a. Figure 3-48 Volume of NAS system

Choose the appropriate volume and click “OK”, the volume will be shown on desktop as shown in figure 3-49.

Figure 3-49

8. The operation of using Samba to connect NAS system is similar to using AppleTalk. Select “WORKGROUP” (Default) in the “Connect to Server” screen, as shown in figure 3-50.

Figure 3-50 Select “WORKGROUP” to use Samba

9. Select the name of NAS system by highlighting it, the Samba connection mode will be shown in the “address” space at the bottom of the screen, (see figure 3-51).

Figure 3-51 Connect to NAS system by Samba

10. Click “Connect” and select share folder, as shown in figure 3-52

Figure 3-52 Share Folder of NAS system

11. Click “OK” and the Authentication screen will be displayed, as shown in figure 3-53.

Figure 3-53 SMB/CIFS Authentication Screen

12. After entering the Username and Password, the shared folder will be displayed on the desktop (figure 3-54).

Figure 3-54

3-5-5 FTP

In case, there is single fixed IP available and the system is located behind NAT, please make sure the IP sharing unit and easyRAID FTP has identical setting as red circle in below figure.

The system supports FTP (File Transfer Protocol) service to share data with FTP clients. This page provides related parameter settings and is shown in figure 3-55.

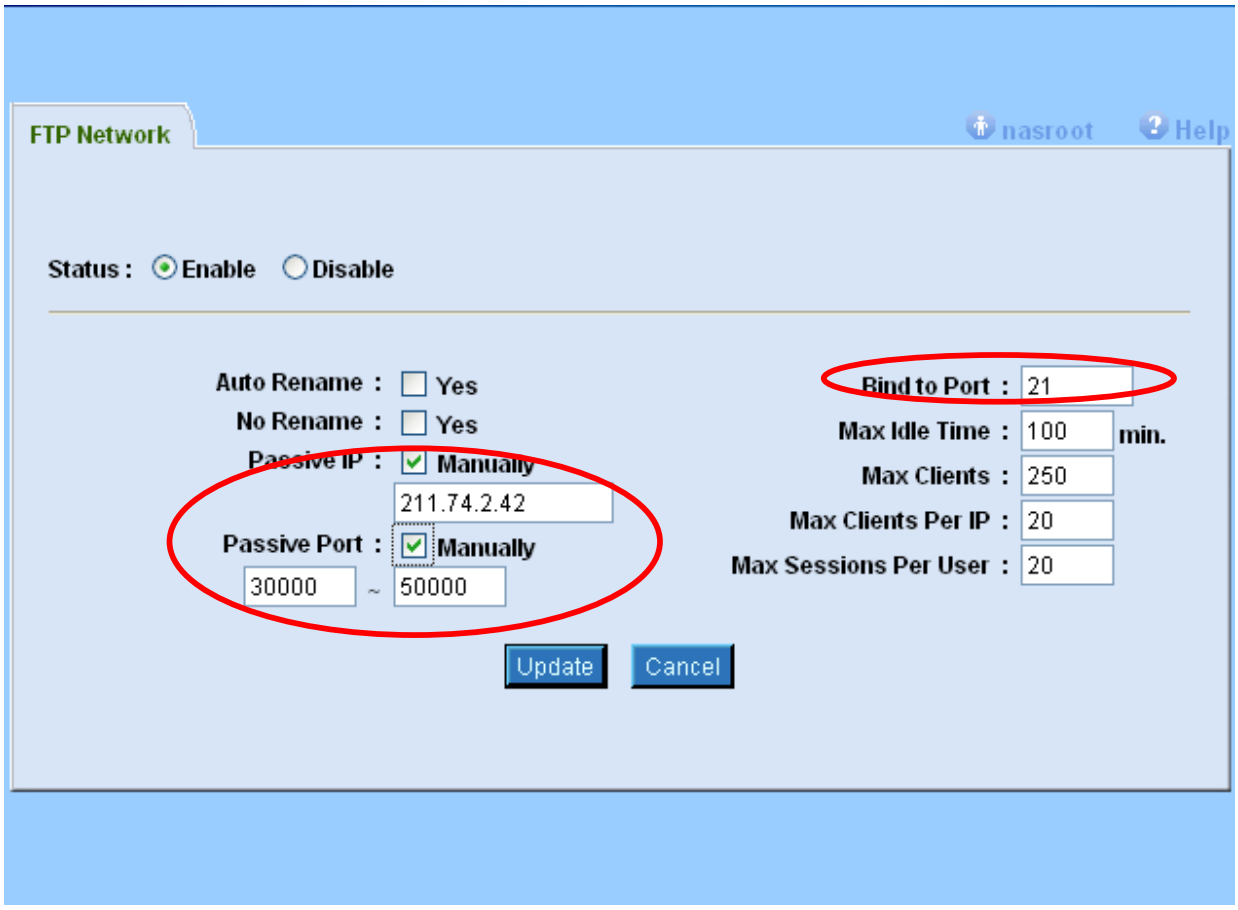


Figure 3-55 Enable FTP Network Service

- ***Status*** : This radio button group enables/disable FTP service of the system.
- ***Auto Rename*** : If this option is set, FTP server will never overwrite files. When a file whose name already exist is uploaded, it get automatically renamed to file.1, file.2, file.3, ...
- ***No Rename*** : If this option is set, users can not rename files.
- ***Passive IP*** : Passive IP address in PASV/EPSV/SPSV replies. - for NAT
- ***Passive Port*** : Port range for passive connections replies (Passive ports larger

then 65535 or less then 1024 are not allowed).

- ***Bind to Port*** : Port to listen to (default=21).
- ***Max Idle Time*** : Maximum user idle time in minutes.
- ***Max Clients*** : Maximum number of simultaneous users.
- ***Max Clients Per IP*** : Maximum number of simultaneous clients with the same IP address.
- ***Max Sessions Per User*** : Maximum number of the same authenticated user.
- ***Update*** : The system saves all modifications if this button is pressed.
- ***Cancel*** : The system skips all modifications if this button is pressed.

3-6 Storage Volume Settings

Storage volume settings menu allows the administrator to configure various settings according to required environment-specific storage mode. The screen after storage mode is set is shown in figure 3-56.

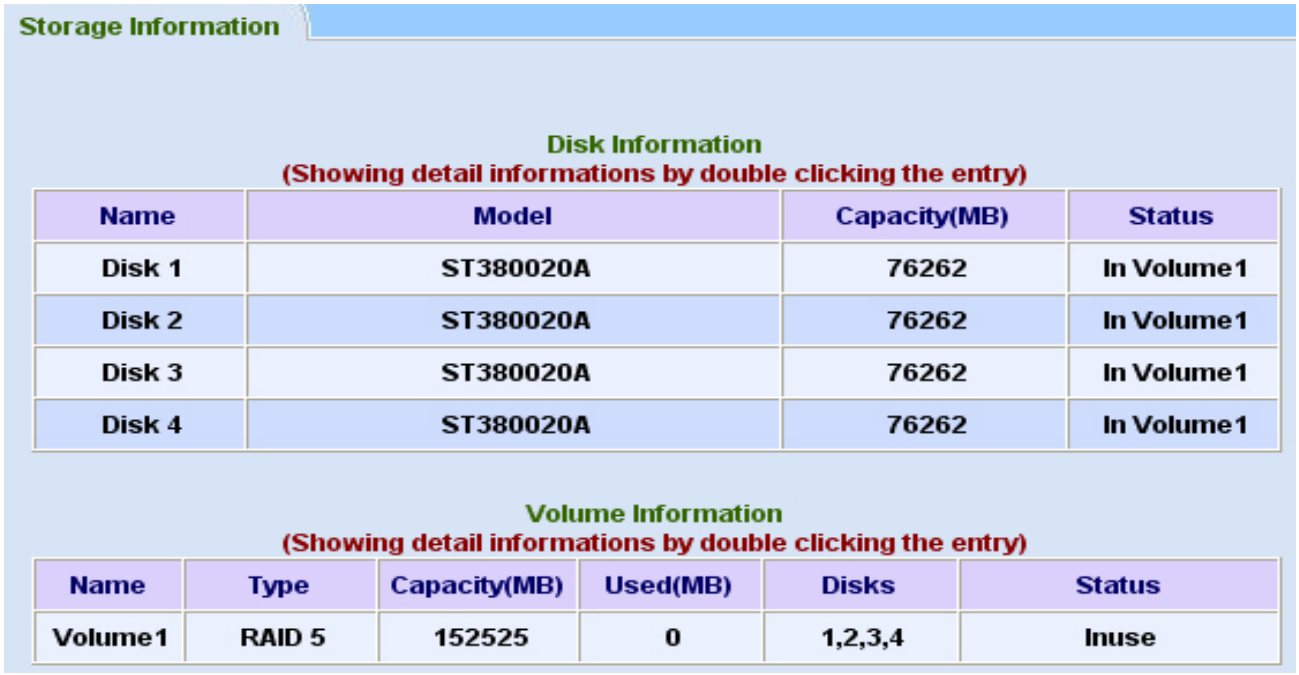


Figure 3-56 Contents of Storage Volume Settings Menu

Storage Volume information includes the used HDD name, type, capacity, and related information. The content of a storage volume may be: (1) a single HDD, or (2) a RAID system which is made up with multiple HDDs.

3-6-1 HDD Information

On the upper half of figure 3-56 lists all used HDD. Its contents include:

(1) Name: Display the name of HDD in system.
(2) Model: Display HDD model.
(3) Capacity: Display the capacity of HDD.
(4) Status: The location of the storage volume.

3-6-2 Storage Volume Information:

On the lower half of figure 3-56, lists related information of all established storage volumes. Its contents include:

(1) Name: Display storage volume name.
(2) Type: Display storage volume type.
(3) Capacity: Display storage volume capacity.
(4) Used (MB): Display amount of space of storage volume in use.
(5) Disks: Includes one or more HDD. Display the HDD combination used by storage volume.
(6) Status: The displayed status can be one of the following six items:

Not Used	The storage volume is not in use.
In Use	The storage volume is in normal operation.
Data Synchronization	When the system is setup for the first time or is shut down abnormally, if there is any RAID-1, RAID-3 or RAID-5 setup in storage volume, the system will automatically duplicate backup data in RAID-1. For RAID-3 or RAID-5 setup, the system performs synchronization on storage volume data, according to the associated location of parity bit.
Data Recovering	The system supports RAID-1, RAID-3 and RAID-5 hot-swap. When storage volume setup is any of these two types, after the replacement of any HDD, the system automatically rebuilds all data in the original HDD.
Data Synchronization Delayed	The basic concept is equivalent to data synchronization. But if another storage volume is performing data synchronization, actions of the storage volume will be delayed until the operation of former storage volume is completed.

Formatting	Storage volume is formatting mode. The progress status will be displayed in this field.

To see more details related to storage volume, double click on the “Storage Volume Name”. Figure 3-57 displays detailed information of a storage volume.

Name	Volume1
Type	RAID 5
Capacity(MB)	152525
Used(MB)	0
Rebuild speed	Low speed
RAID disks	Disk 1, Disk 2, Disk 3 [3/3]
Spare disks	Disk 4
Stripe size	64 KB
Status	Inuse

Figure 3-57 Detailed Information of A Storage Volume

3-6-3 Storage Volume Settings Menu

Figure 3-58 displays options of storage volume settings menu and Figure 3-59 shows storage information in a currently installed system.

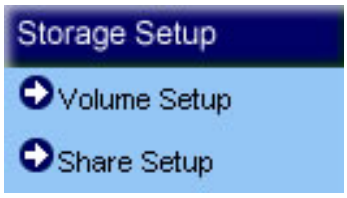


Figure 3-58 Options of Storage Volume Settings Menu

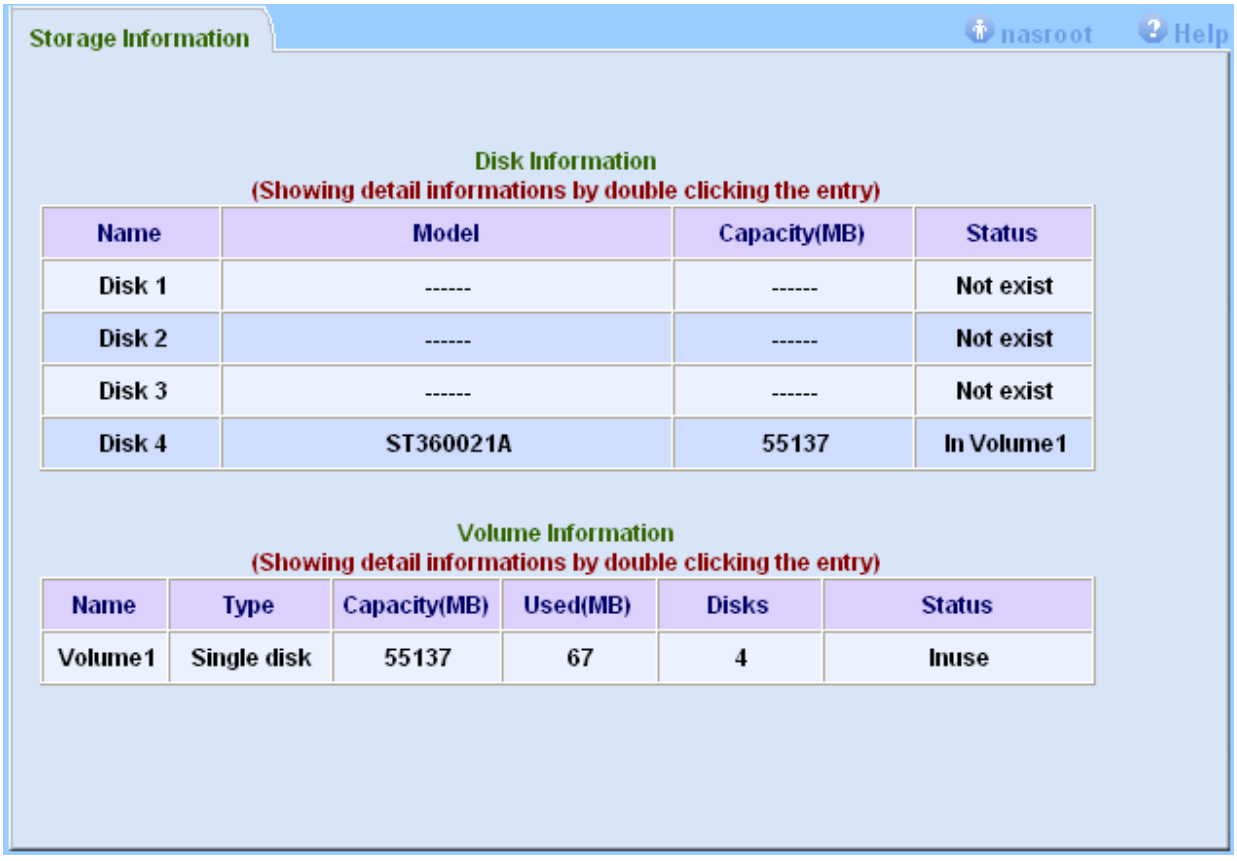


Figure 3-59 Storage Information

Double click on installed disk and the disk information screen appear below as Figure 3-60.

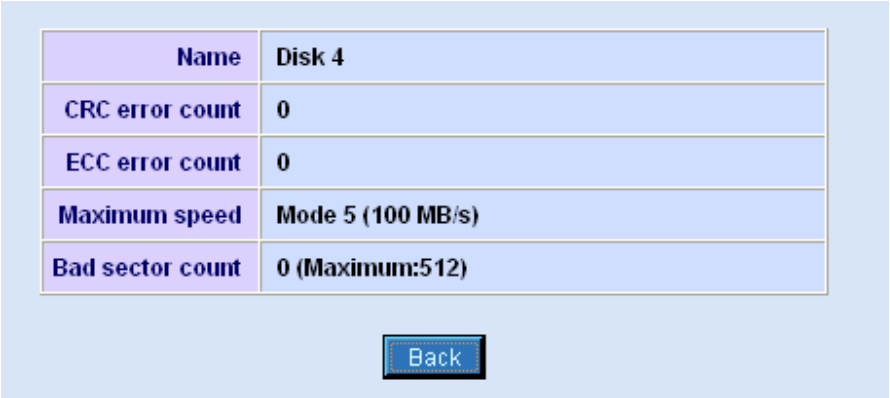


Figure 3-60 Disk Information

CRC is the acronym of Cyclic Redundancy Check. CRC error indicates there is data error during the data transmission between hard disk and IDE controller. When CRC error occurs, read/write command will retry again. The greater the number is, the more unstable the hardware is.
ECC is the acronym of Error Correction Code. ECC error means bad area in hard disk.
Both of the number of CRC and ECC will be reset to zero after system reboot.

The easyRAID NAS has supporting bad sector remapping feature with the bad block up to 384, system will warning by buzzer for attention. With bad sector counting up to 512 then the hard disk will be kick out by system automatically.

We are strongly recommend when the bad sector count has up to 384 and alarm by system. Please replace the hard disk in very short time to prevent any data loss.

3-6-4 Storage Volume Layout

Figure 3-61 shows the options of storage volume layout menu.

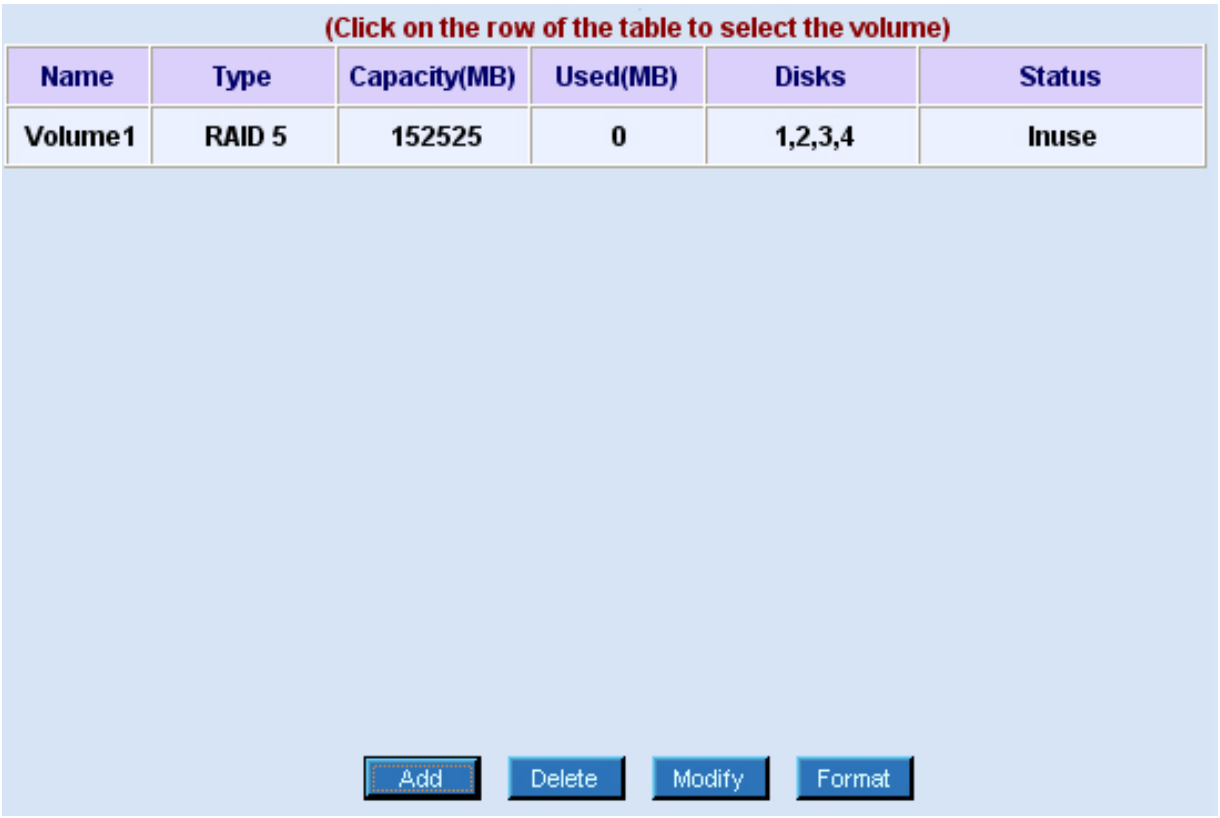


Figure 3-61 Storage Volume Layout Menu

Any storage volume is formed in logic order. The storage volume formation is either a single HDD or an array formed by multiple HDD.

This page displays related information of a storage volume and provides options for storage volume settings.

(1) Add: Create a new storage volume.
(2) Delete: Select a storage volume and click “Delete” to delete the storage volume.
(3) Modify: Select a storage volume and click “Modify” to modify required fields. This mode allows only rebuilding speed to be changed.
(4) Format: Formats a selected storage volume.

To make any changes, the volume must first be highlighted and the relevant option selected. The “Modify” mode can only be selected during initial volume build up or in rebuilding mode.

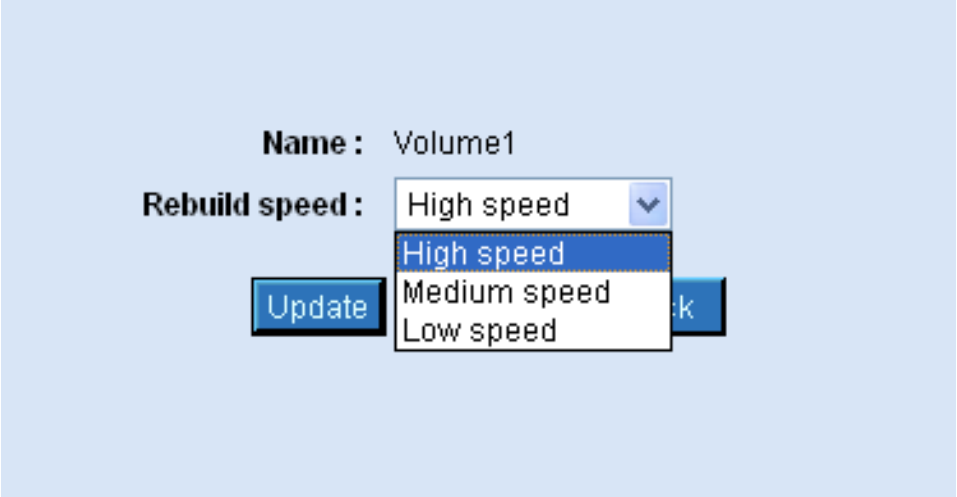


Figure 3-62 Alter “Rebuilding Speed” in modify storage volume option

3-6-5 Folder Layout

This menu applies to folders in a storage volume and stores them in a cross-platform network to allow access of clients using SMB, NFS, or Apple Talk. Figure 3-63 shows the full view of folder contents.

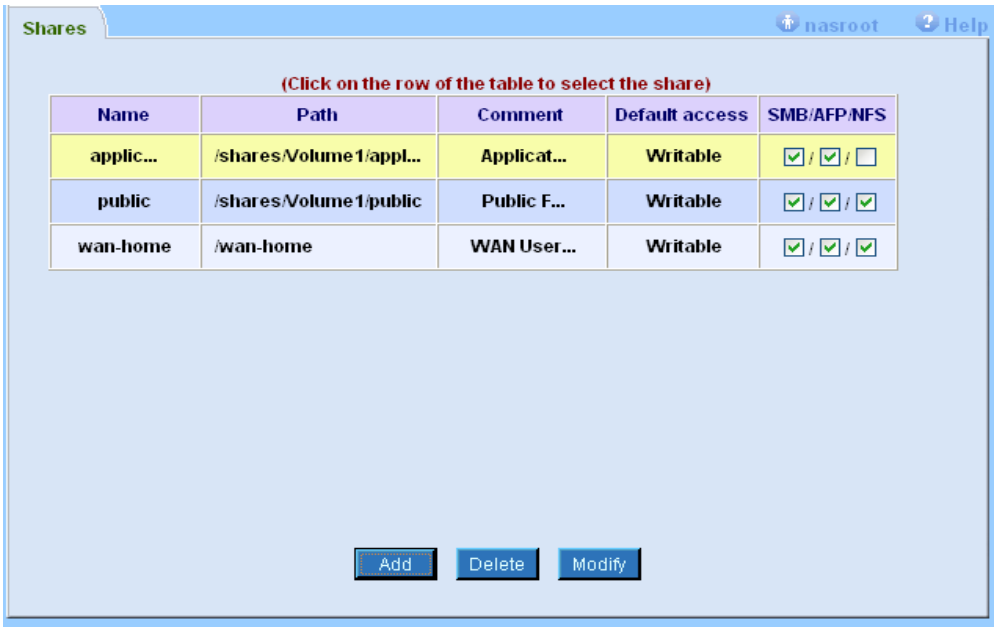


Figure 3-63 Full View of Folder Contents

If there is no normal operational storage volume created in the system, a data folder can not be created.

Figure 3-64 shows “Add Folder” option in the system.

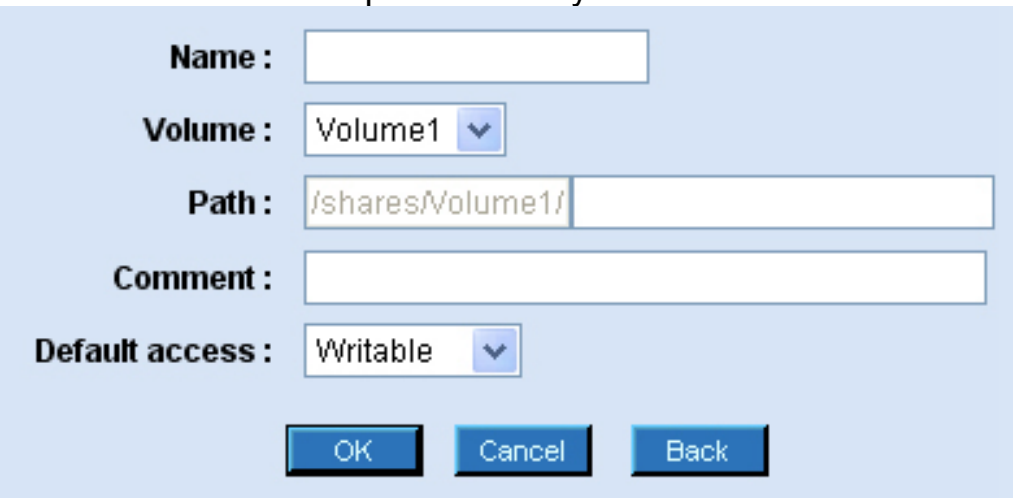


Figure 3-64 Create Data Folder

The following parameters must be set to create a new data folder:

(1) Name: The name, which is entered, is the physical name of the folder that will be displayed on the system.

(2) Storage Volume: Select the folder and put it in any created storage volume.

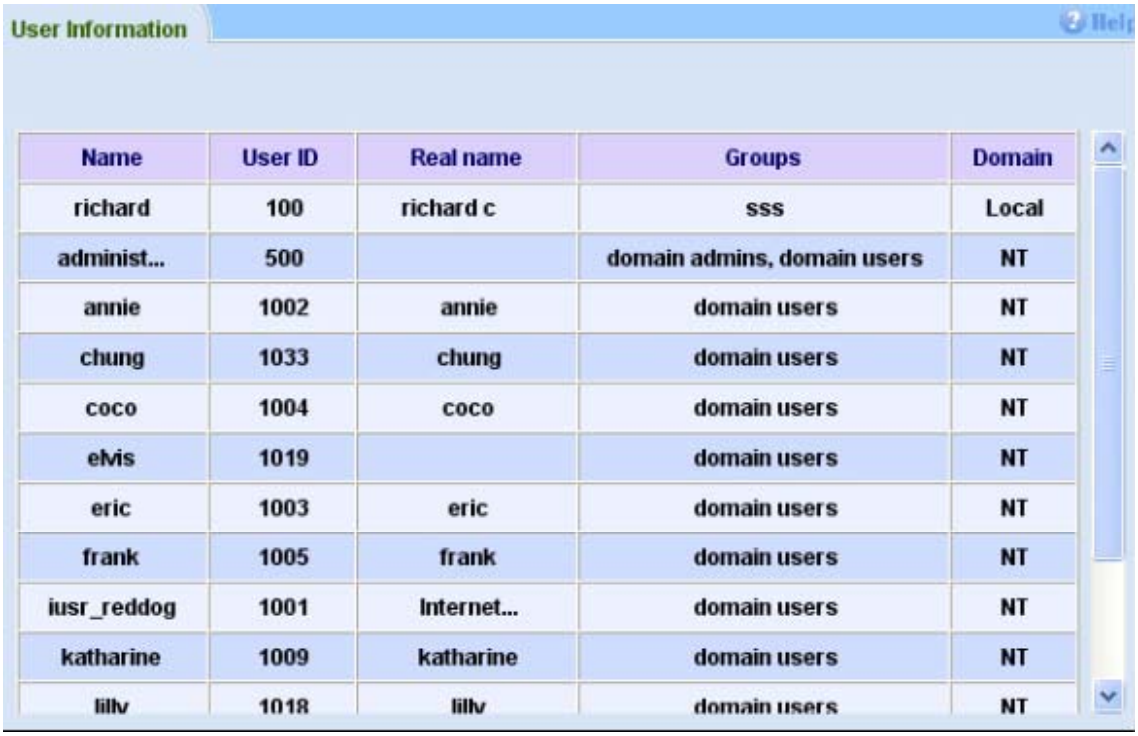
(3) Path: The actual path, where the folder is stored in a storage volume.

(4) Comment: Comments for the created folder, its contents will be displayed in the network environment.

(5) Default Access Privilege: Set the default access mode as “Write” or “Read-Only.”

3-7 User Privilege Settings

This menu is used to set system groups and user privileges. Figure 3-65 shows related information of user profiles.



Name	User ID	Real name	Groups	Domain
richard	100	richard c	sss	Local
administ...	500		domain admins, domain users	NT
annie	1002	annie	domain users	NT
chung	1033	chung	domain users	NT
coco	1004	coco	domain users	NT
elvis	1019		domain users	NT
eric	1003	eric	domain users	NT
frank	1005	frank	domain users	NT
iusr_reddog	1001	Internet...	domain users	NT
katharine	1009	katharine	domain users	NT
lillv	1018	lillv	domain users	NT

Figure 3-65 User Profiles Screen

Figure 3-66 shows configuration options of user privilege settings menu.

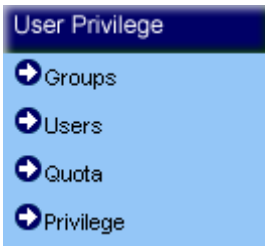


Figure 3-66 Configuration Menu of User Privilege Settings

3-7-1 User Groups

Figure 3-67 shows the settings screen of user groups. It includes established groups and members of each group.

Figure 3-67 Groups Settings Screen

Detail contents of the user group option include:

(1) Group Name.

(2) Group ID: Group ID Number.

(3) Members: Members that belong to the group.

(4) Domain: Display the domain in which a member belongs.

1. Add Group

To add a new group in the system, click “Add” in the Groups Settings. This mode allows the set up of users at the local level. Adding groups from a server requires the users to be set up on the server first and access & authentication via Domain level in the “Network Setup” menu section. Figure 3-68 shows the contents of the Add Group screen.

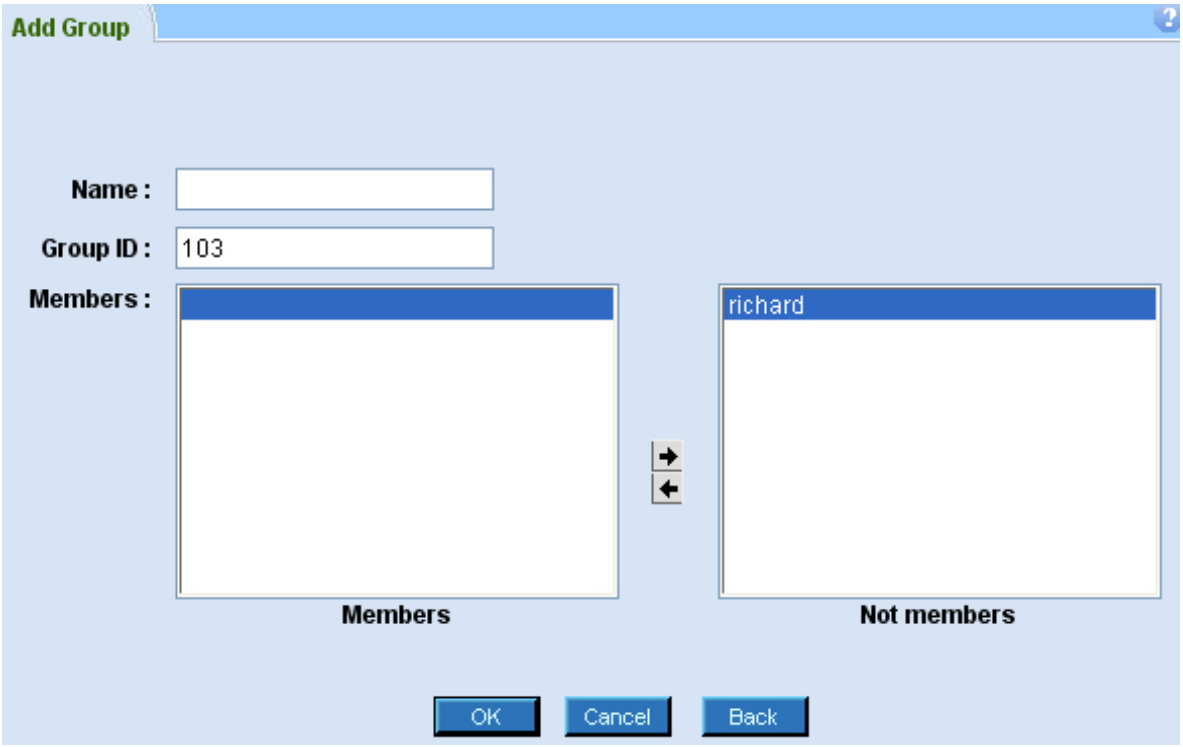


Figure 3-68 Add Group Screen

(1) Member/Non member: When a new group is added, click direction key to add its member(s) from the list on the right side of screen or to remove. To change members of a group, a member(s) can be deleted by using the direction key. This function is only enabled at the local user level. Domain level users must be added or remove at the server level.

(2) Group ID: When a new group is created, the system assigns it a unique ID. In general, there is no need for the system administrator to change that.

2. Delete Group

To delete a group, please highlight the group name and click “Delete” button. A warning message will appear requesting confirmation of action. After clicking “OK” the group will be deleted from the system. Figure 3-69 shows the confirmation screen to delete a group.

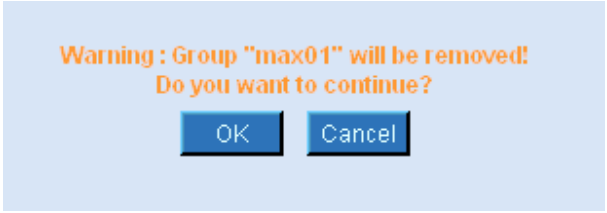


Figure 3-69 Confirmation to Delete a Group

3. Modify Group

To modify a group, please use the mouse to select the group name. And then click “Modify”. Figure 3-70 shows the page to Modify Group.

Members can be selected by using the direction button to include or remove. Updating save the changes. Selecting the “Cancel” button reverts back to the original membership of the group. Selecting the “Back” button take the user out of this screen without affecting the original membership.

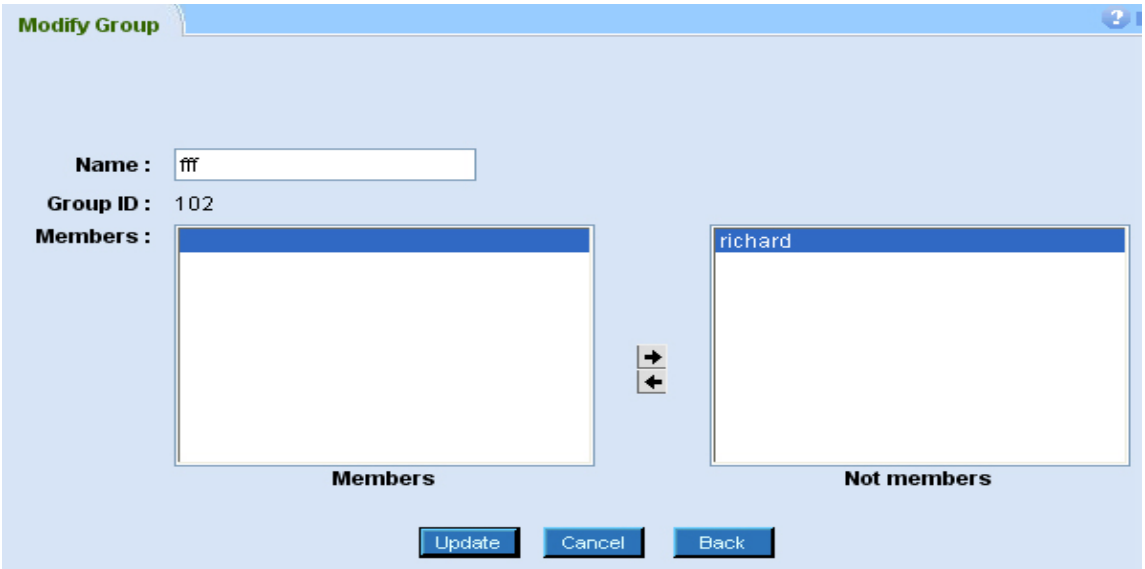


Figure 3-70 Group Modify page

3-7-2 User Accounts

Figure 3-71 shows the settings of user accounts, which includes all system members and their related information.

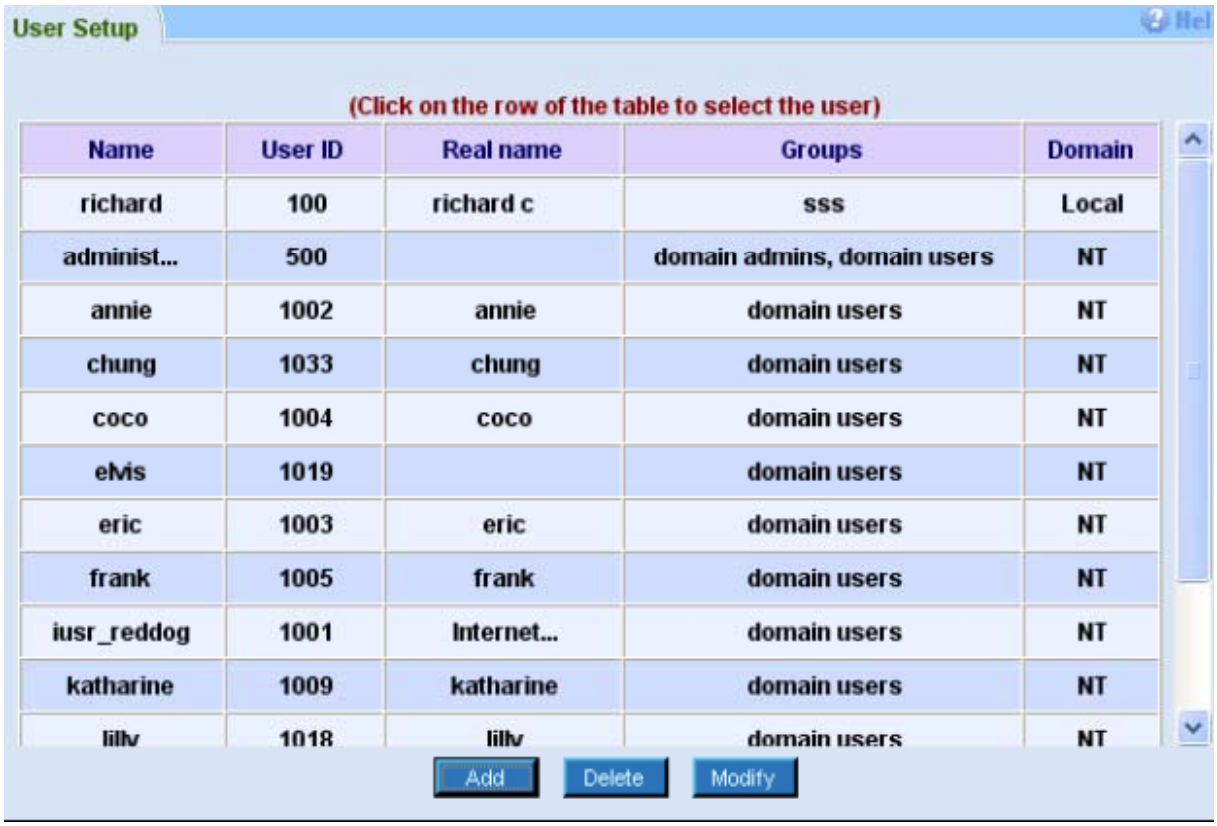

User Setup
(Click on the row of the table to select the user)
Name
User ID
Real name
Groups
Domain
richard 100 richard c sss Local
administ... 500 domain admins, domain users NT
annie 1002 annie domain users NT
chung 1033 chung domain users NT
coco 1004 coco domain users NT
elvis 1019 domain users NT
eric 1003 eric domain users NT
frank 1005 frank domain users NT
iusr_reddog 1001 Internet... domain users NT
katharine 1009 katharine domain users NT
lilly 1018 lilly domain users NT
Add
Delete
Modify

Figure 3-71 User Settings Screen

The displayed contents of user related information include:

(1) Name: User name to login to the system.

(2) User ID: User ID number.

(3) Real Name: The full name of the user.

(4) Groups: Groups that the user belongs to.

(5) Domain: Displays the network domain to which the user belongs.

(6) Disable: The check box should be checked, if this user has been disabled.

1. Add Users

The LAN user and WAN user must be unique, not allow duplicate.

To add a new user to the system, click “Add” on the user settings page. Figure 3-72 shows the contents of the Add User page.

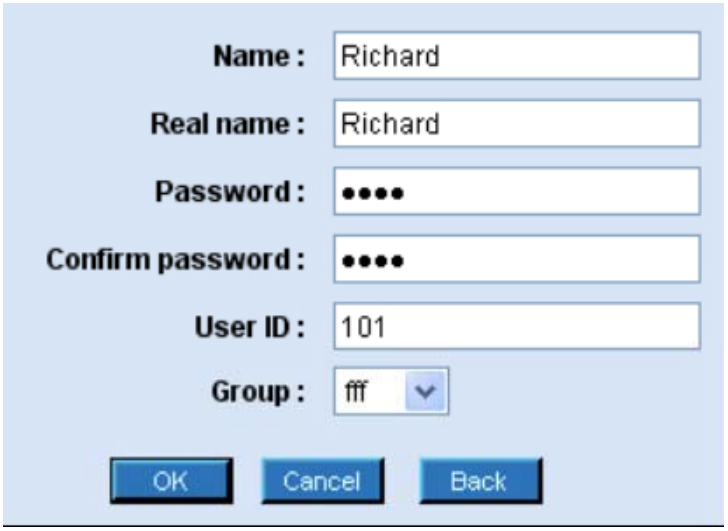


Figure 3-72 Add a User

When a new user is added, the following parameters must be provided:

(1) Name:	A brief user name, used to login to the system.
(2) Real Name:	The full name of the user.
(3) Password:	A password to login to the system, or use the “Blank Password”.
(4)Confirm password:	Confirm the password.
(5) User ID:	Upon the creation of each new user, the system automatically assigns the user a unique ID number. In general, the system administrator does not have to change it.
(6) Group:	Each user must belong to at least one group. Use the group list to select groups to which the user belongs.

In the system, a Guest account is provided for users that do not have system authentication to access shared storage volume.

2. Delete User

To delete a user, use the mouse to highlight the user and click “Delete”. After confirmation, the user is deleted from the system. Figure 3-73 shows the confirmation screen to delete the User selected.

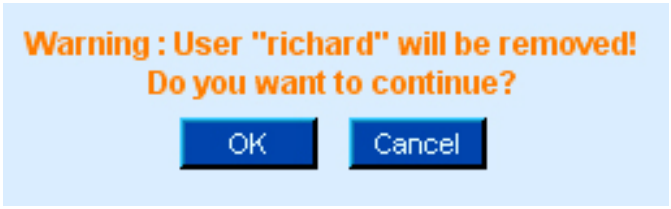


Figure 3-73 Delete a User

When a user is deleted, all the contents in its personal folder will be erased at the same time and the system has no way to restore, nor rebuild, its contents. Please backup all user data before deleting a user. It is best to deny access to the user in the Privilege Screen before deleting.

3. Modify User

To modify a user, highlight the user and click “Modify.” Figure 3-74 shows the Modify User page.

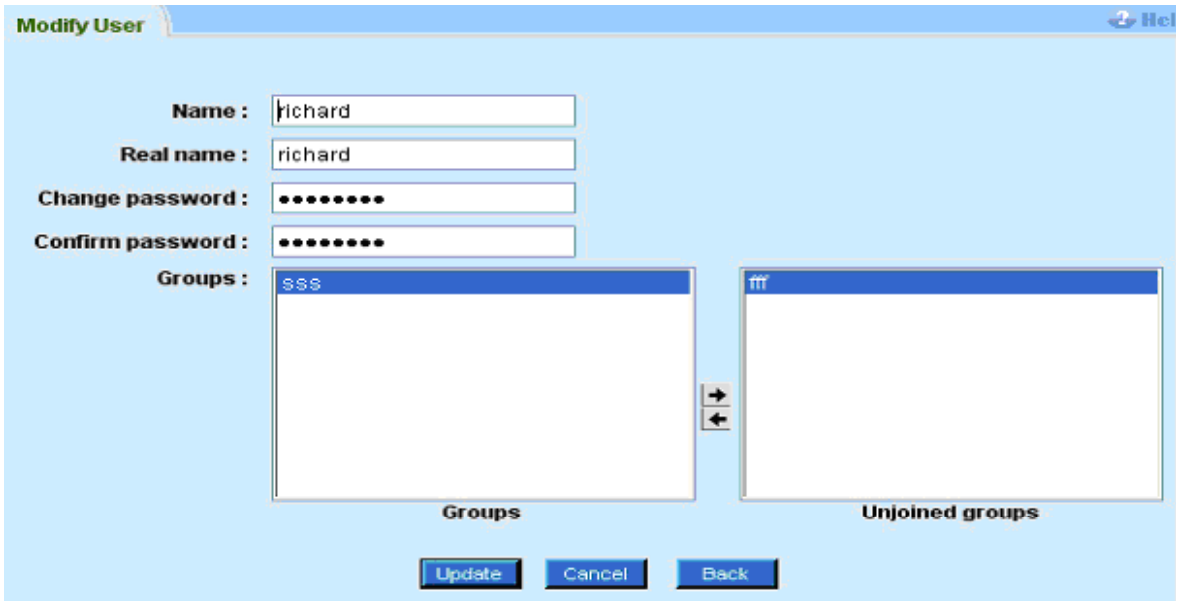


Figure 3-74 Modify the Contents of a User

When the contents of a user are to be modified, the settings of the following parameters are allowed for modification:

(1) Name: A user name to login to the system.

(2) Real Name:The full name of the user.

(3) Change password: To change user password, enter a new password and, in the field under it, confirm the password by entering it again.

(4) Confirm Password: Confirm the new password.

(5) Groups: A user must belong to a group or may belong to several groups at the same time. Here, it displays a list of all groups that the user belongs to.

(6) Unjoined Groups: Lists all groups that the user does not belong to.

If a user is in an NT domain, user information cannot be changed except at the Server itself.

3-7-3 User Quota

Viewing and modifying the quota of a user or a storage volume is provided. The system provides two ways of viewing the quota:

(1) User Quota: Limits the quota of each user in each storage volume.

(2) Storage Quota: Limits the quota of all users in each storage volume.

1. Quota Setting—User Quota Overview. Figure 3-75 shows an overview of the user quota.

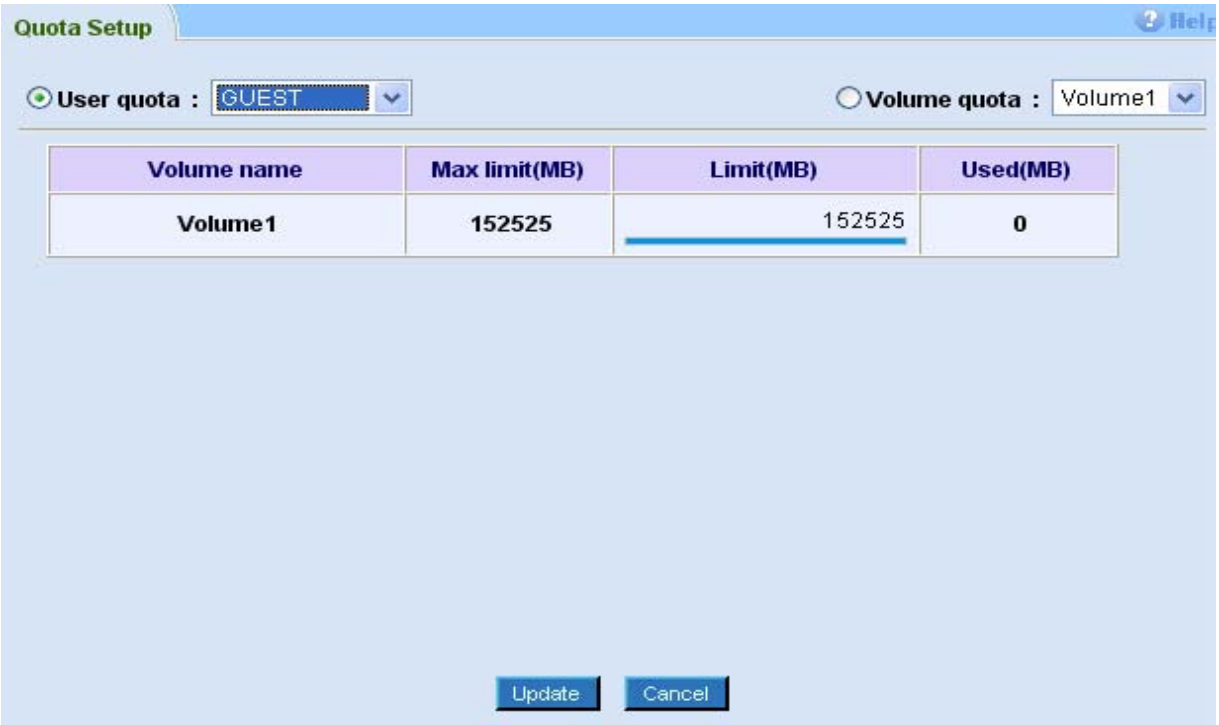


Figure 3-75 Quota setting—user Quota overview

Select a user that you would like to modify. The system provides two methods to change the user's quota limit.

(1) Use "dragging point" to drag and set the quota limit of the user.

(2) Use "keyboard" to enter and change the quota limit of the user.

The quota is limited to the number of users and the capacity of the drive volume.

2. Quota Setting—Storage Volume Quota Overview

Figure 3-76 shows the overview of Storage Volume Quota

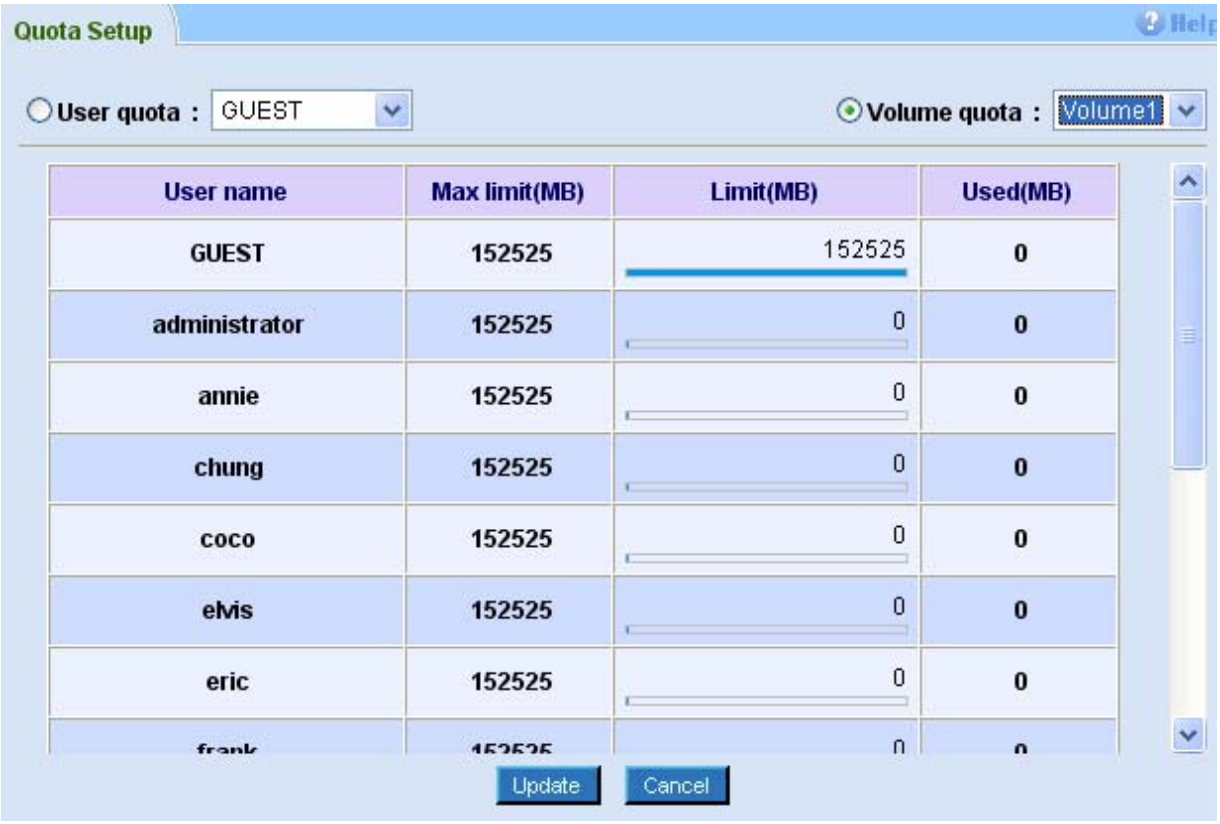


Figure 3-76 Quota setting—Storage Volume Quota overview

In the Storage Volume Quota Limit screen, first use the drag-down menu to select the storage volume on which you want to work. And then distribute it to every user according to the planned quota.
Use the two above-mentioned methods to change the user's quota limit. (Dragging Point or Keyboard Entering)

3-7-4 User Privileges

If “Read Only” or “Deny Access” privilege is applied to a group, all members in the group have the same privilege as the group does. Unless, if “Writable” applied to group then privilege will go with each user’s setting.

You may manage shared folders and set privileges of various shared folders for each user. Make separate settings for both types of network environments. From the upper right of the page select an option to set: Windows Apple and FTP client, or UNIX compatible NFS Client.
Figure 3-77 shows the Settings Screen of the Windows, Apple, and UNIX platforms.

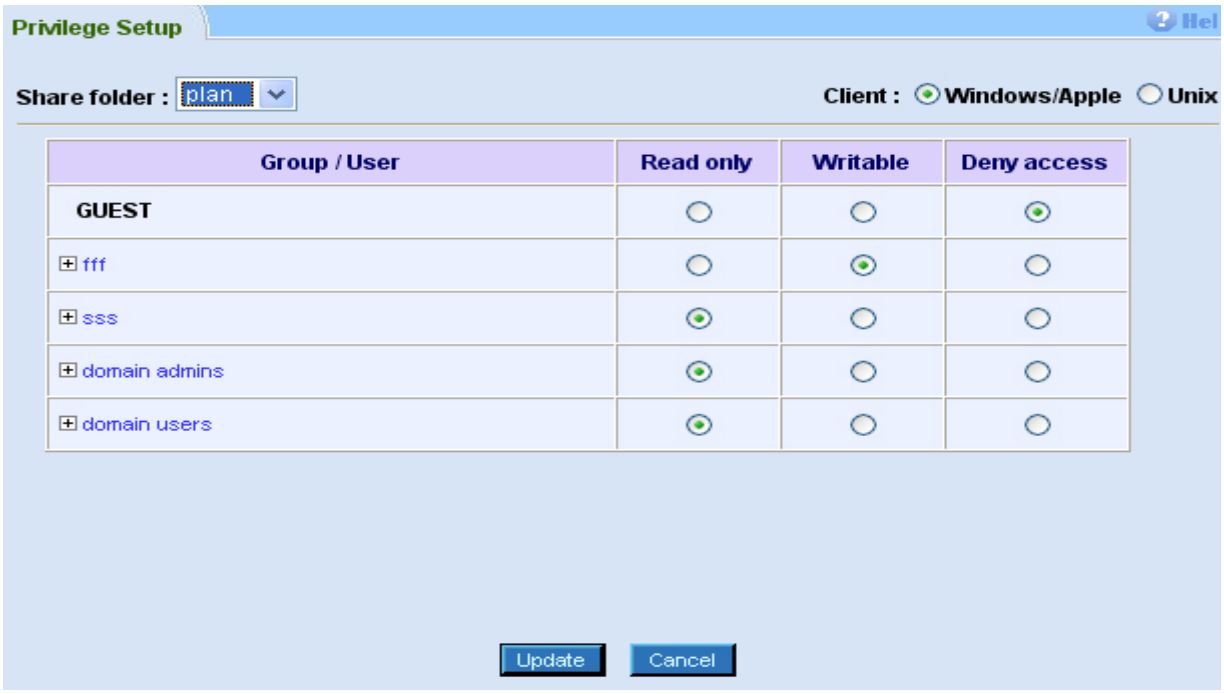


Figure 3-77 Common settings—Windows, Apple, FTP and UNIX

When a client uses Windows/Apple/FTP or UNIX, the system provides three different privilege settings for a folder: Read-only, Write, and Deny access.

All parameters in privilege settings are described in the following manner:

(1) *Share a Folder:* Use the drop-down menu to select the folder to change privilege settings.

(2) *Group/User:* A vertical display that shows the contents of system groups.

Click on the (+) box to see all members in a group.

(3) *Read-only:* Only allows groups or users to read data in the folder.

(4) *Writable:* Allow groups or users to write into and delete in the folder.

(5) *Deny Access:* Prevents groups or users from accessing the folder.

3-7-5 File Manager

Please be noticed that User privilege setting refer to 3-7-4 is "Share" level and higher grade than ACL "File" level permission. In the other word, if "Share" level has been setup with limited privilege e.g. "Read Only" then all of its sub-directory and file with ACL "File" level setting e.g. "Writable" won't take effect with its permission.

At the first level, the screen displays the name of the storage volume, Owner, Size and Date/Time of creation. See Figure 3-78.

Double clicking on the Volume will display the second level. This level includes folder names, owners, size and date/time of last modification. See Figure 3-79. At this level, there is an option to delete the folder or file by selecting the relevant item. This is done by passing the cursor over the X beside the selected item. The cursor will change from a pointer to a finger. Clicking it again will display a warning message requesting confirmation. Clicking "OK" will delete the folder and there is no recourse for this action. Click Cancel to cancel operation.

The Administrator can continue to go down each level until only files remain. Double clicking on a file will download the file to the local hard drive of the computer. Only the administrator can view or delete the contents.

To return to the next higher level, click on the Parent directory.

Figure 3-78 File Management

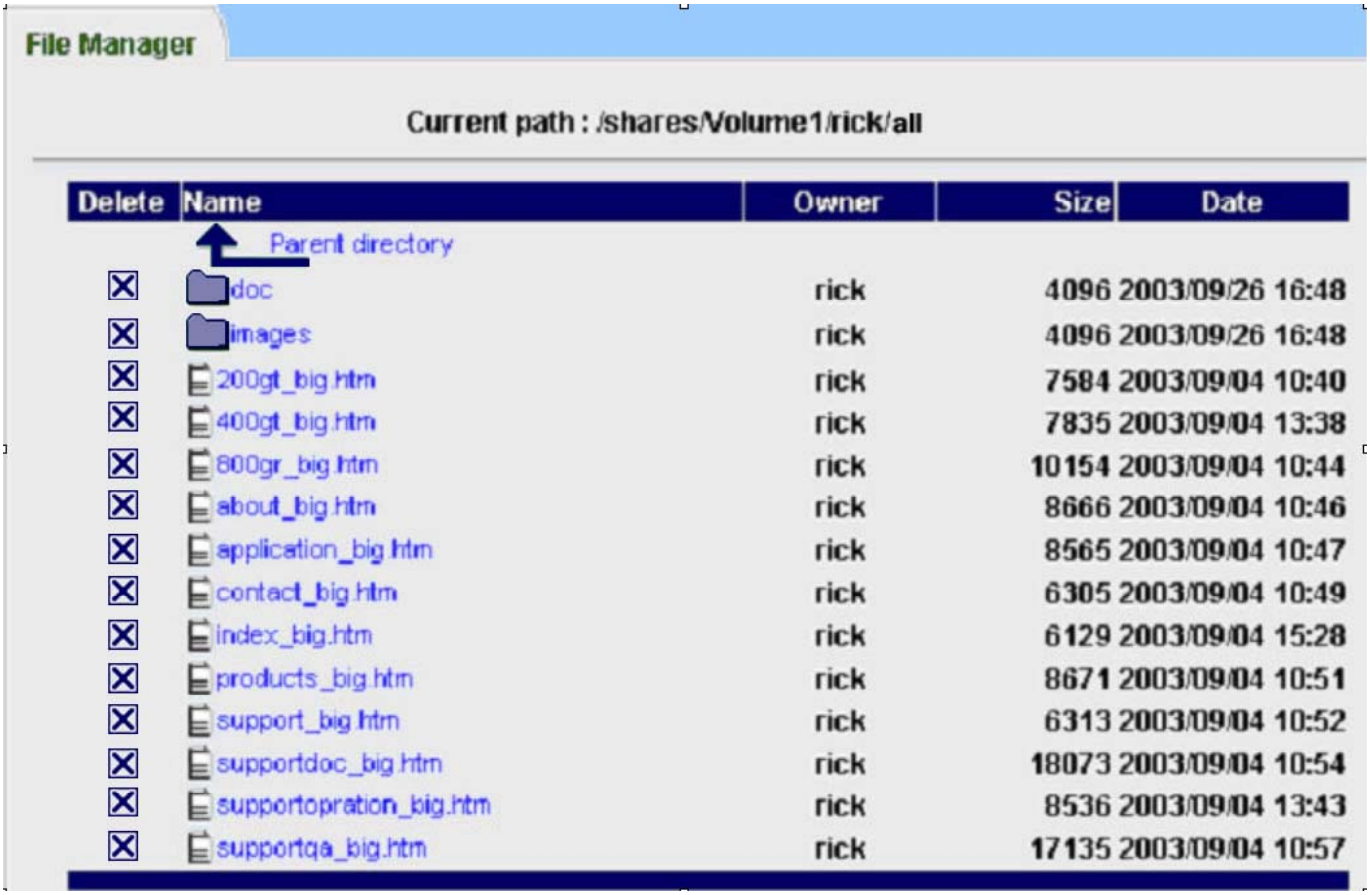


Figure 3-79 File Management

The following describes all contents and information in File Management:

(1) File Name : The file name. If this is a storage volume or a folder, click on it to open the storage volume or folder to show its contents. If the project is already a text file, clicking on it will download the file to a local computer.

(2) ACL : The “KEY” icon is the entry of ACL setting.

(2) Owner : The owner of the file.

(3) Size : The size of the file.

(4) Date : The date on which the file was created or last modified.

Double click on “KEY” icon will lead you into the ACL settings, please refer Figure 3-80 for details.

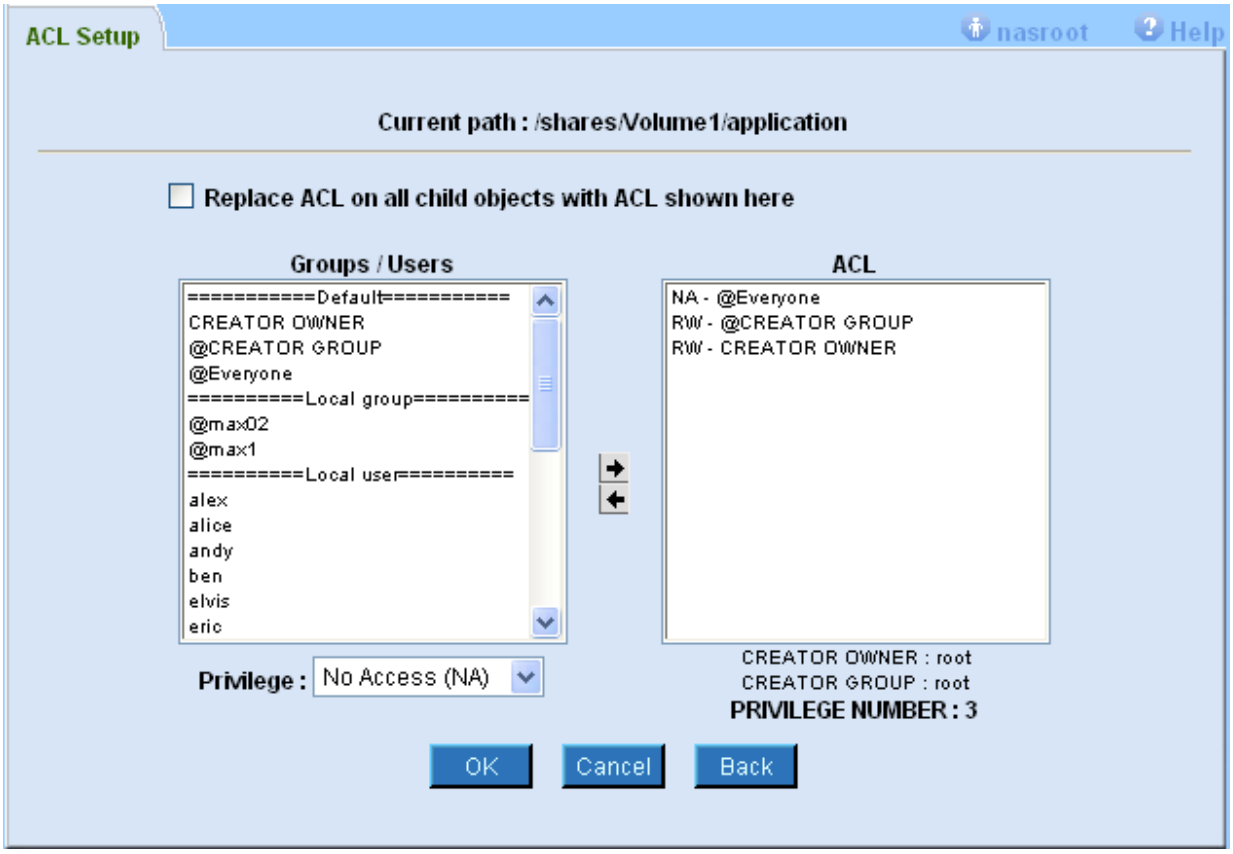


Figure 3-80 ACL Settings

Replace ACL on all child objects with ACL shown here: If this checkbox is checked, the ACL shown here will replace the ACL on all child objects.

Privilege: There are 3 privileges can be assigned to an object.
No Access (NA): User is forbid to access the object.
Read Only (RO): User is only allowed to read the object.
Read/Write (RW): User is allowed to read and write the object.
Groups/Users: This selection field list all users and groups. The initial "@" of an entry represents group.
ACL: This field list ACL of the object.
CREATOR OWNER: This term represents the owner user of the object.
CREATOR GROUP: This term represents the owner group of the object.

The ACL permission granted in easyRAID NAS as following 4 rules in order. Whenever it comes first and it won't go any further.
The object permission right is granted accordingly if
1. UID is matched Creator Owner.
2. UID is matched any listed ACE.
3. GID is matched Creator Group or listed ACE.
4. Not apply for above 3 rules then it will granted permission of everyone.

UID→User ID
GID→Group ID
ACE→Access Control Entry

3-8 System Status

The System Status Menu options are shown in figure 3-81. Select any option and view its contents to understand the system status.

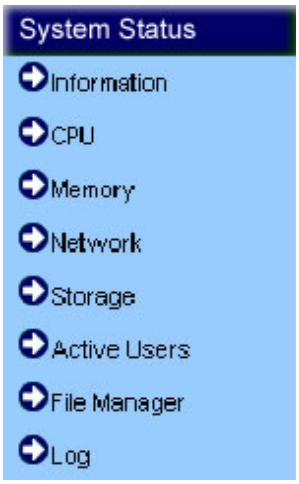


Figure 3-81 System Menu Options

3-8-1 System Information

System information is shown in figure 3-82.

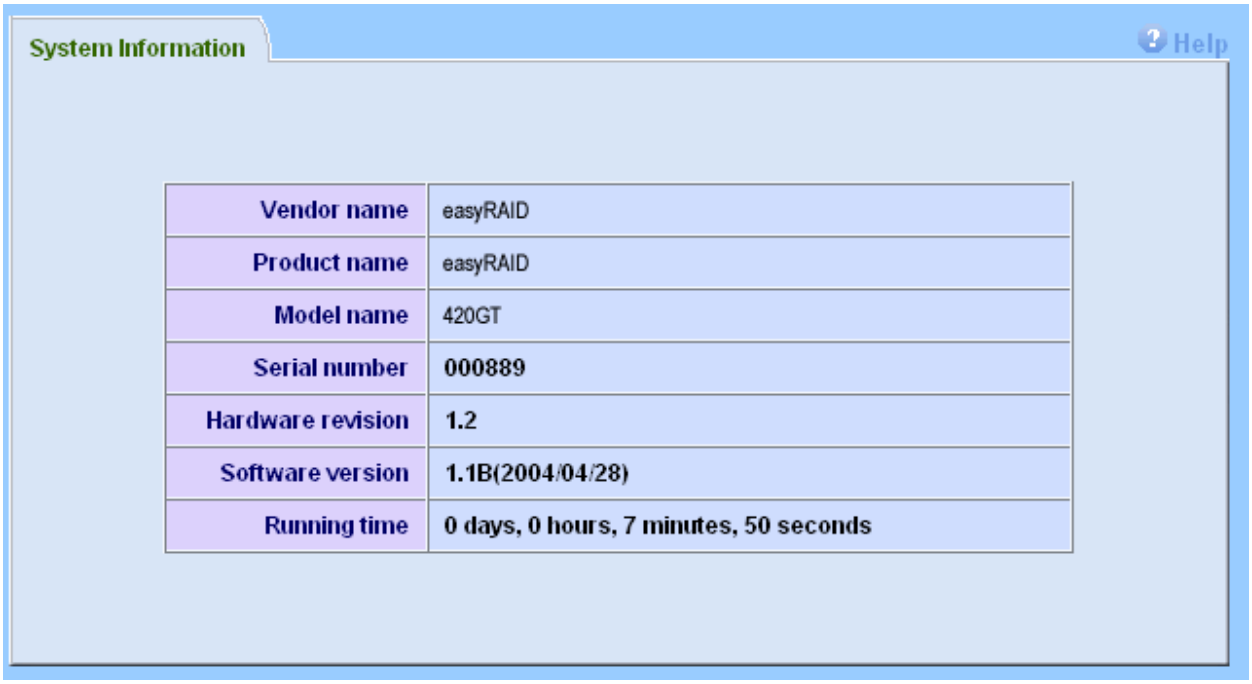


Figure 3-82 System Information

System information includes the following:

(1) Vendor name: Manufacturer of the system.

(2) Product name: Name of the product.

(3) Model name: Product model.

(4) Serial number: The serial number of the system is a 6-digit number.

(5) Hardware revision: This display version of firmware currently used by the unit. Updating the version can be completed in the Firmware Update under the System Setup area.

(6) Software version: This display version of software currently used.

(7) Running Time: Elapsed time since system power on.

3-8-2 CPU

Figure 3-83 shows the status of CPU Activity and Utilization. This display will refresh every 2 seconds.

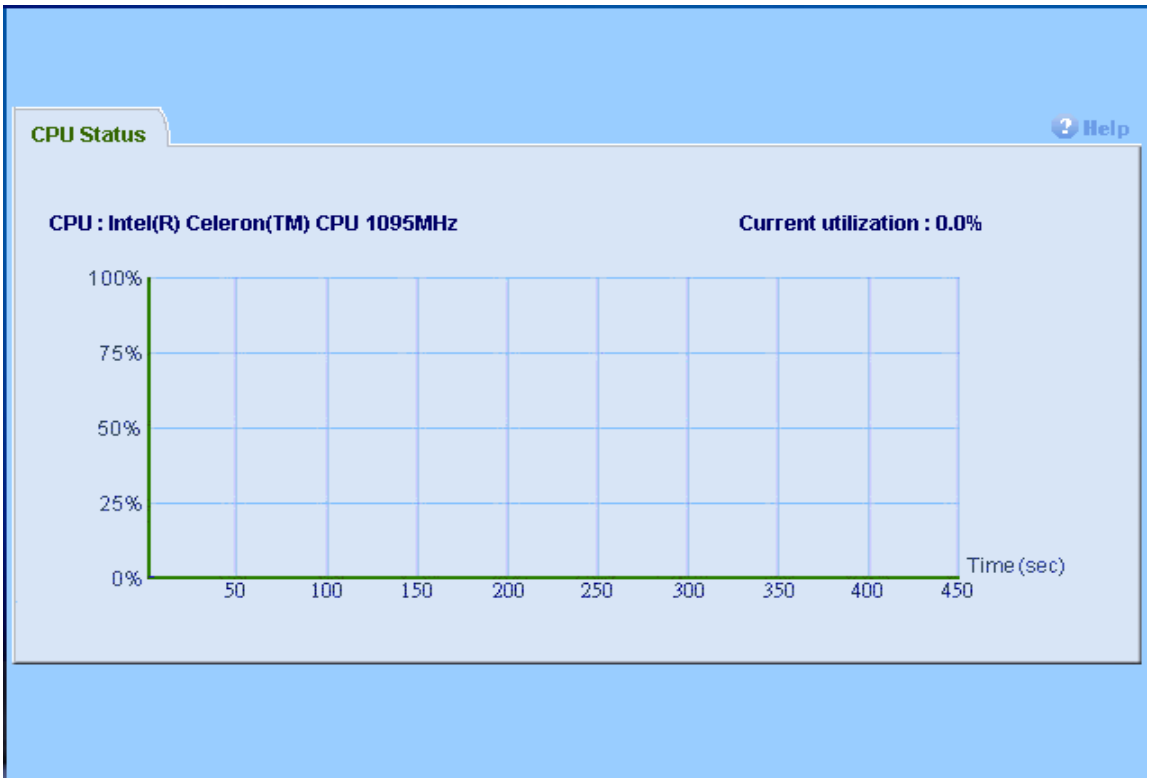


Figure 3-83 CPU Status

3-8-3 Memory

Figure 3-84 displays the memory type and the size of the memory (between 128MB to 512MB (max)).

Memory size	256 MB
Memory type	SDRAM

Figure 3-84 Memory Information

3-8-4 Network

The network port settings of the system are displayed here. (Gigabit)

NIC	Ether0
Attach	Yes
Setup	Manually
IP address	192.168.2.189
Subnet mask	255.255.255.0
DNS server	
MAC address	00:06:12:00:04:65
Current speed	100 Mb/s, Full Duplex

Figure 3-85 Network Information

3-8-5 Storage

All relevant information pertaining to the type, model, capacity and utilization of the drives and volume is displayed.

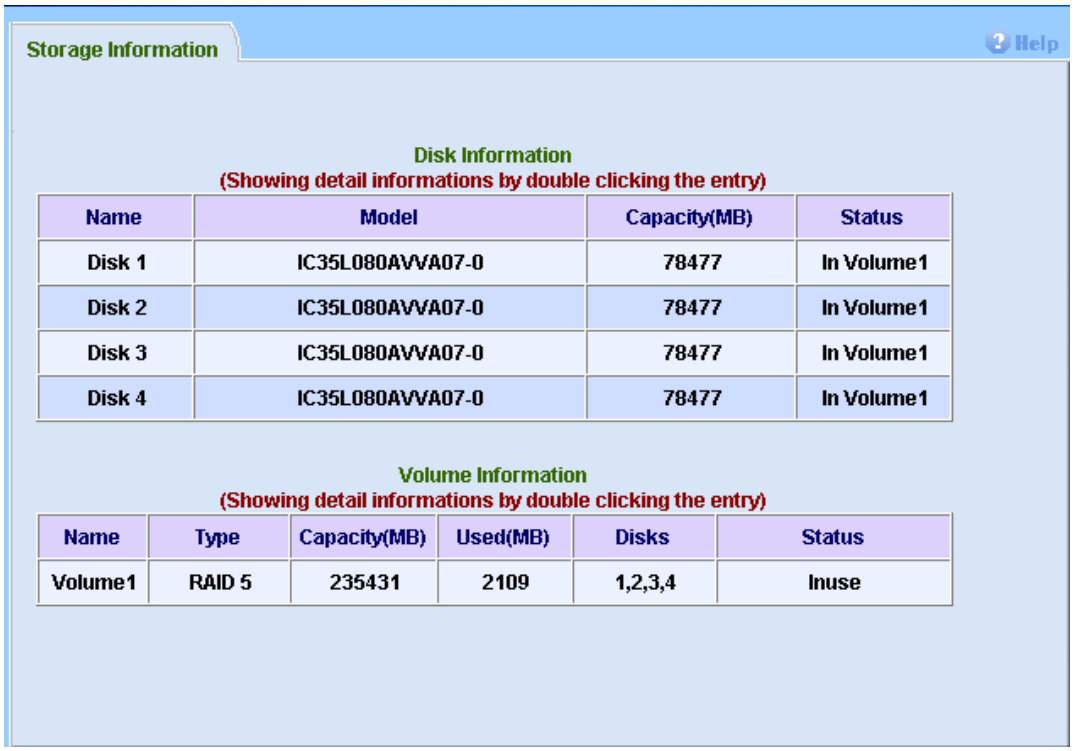


Figure 3-86 Storage Volume Information

3-8-6 Active Users

This page lists all active users including Guest user. Related information of the individual user is also displayed.

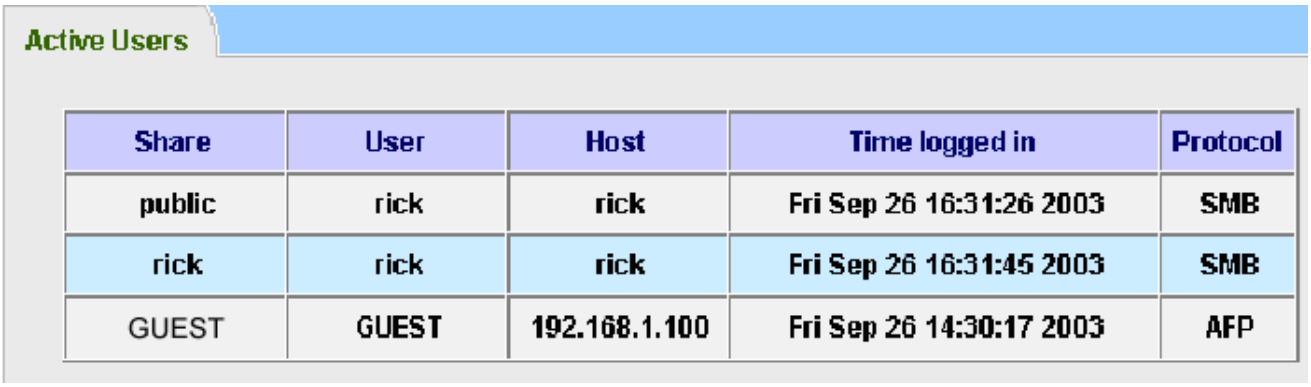


Figure 3-87 Active Users Information

Information displayed is:

(1) Share: This is(are) the “Shared” folder(s) used after the user has logged on.

(2) User: User name of the Active Client.

(3) Host: Name or IP.

(4) Time Logged in: Login time.

(5) Protocol: The type of protocol used

3-8-7 System Log

This screen shows the usage of the system, including system messages, warning messages, and error messages.

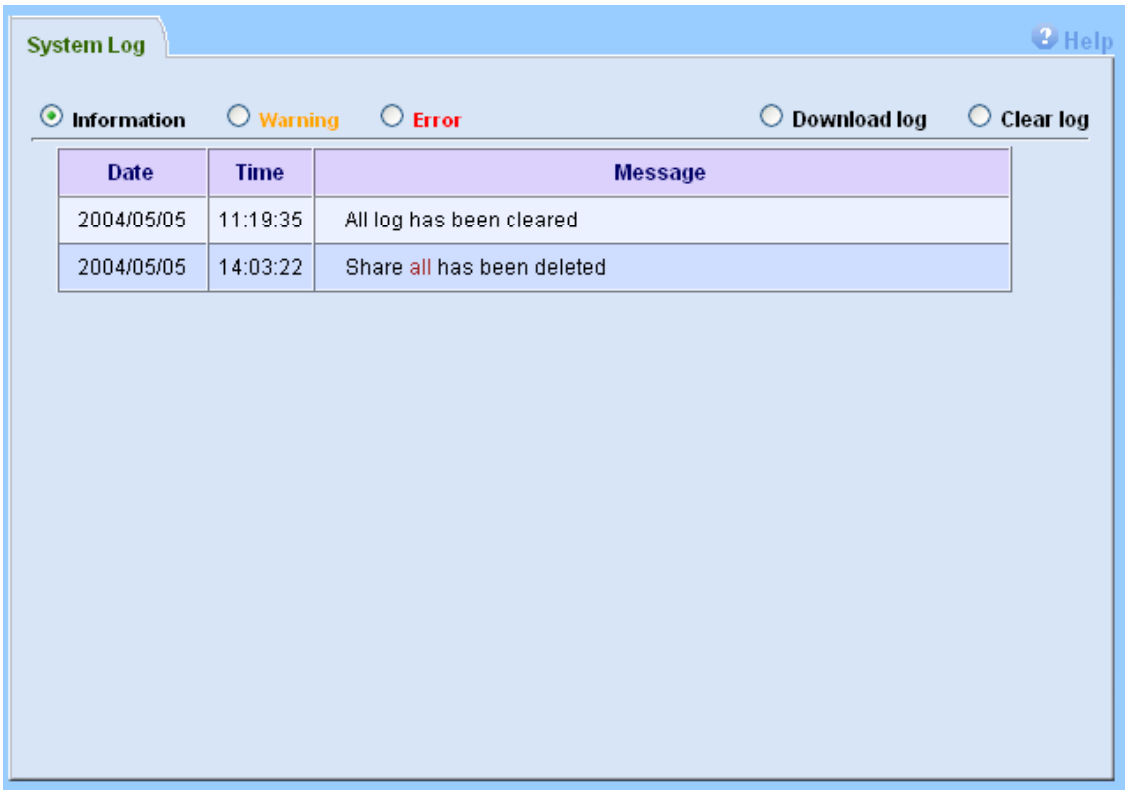


Figure 3-88 System Log Overview

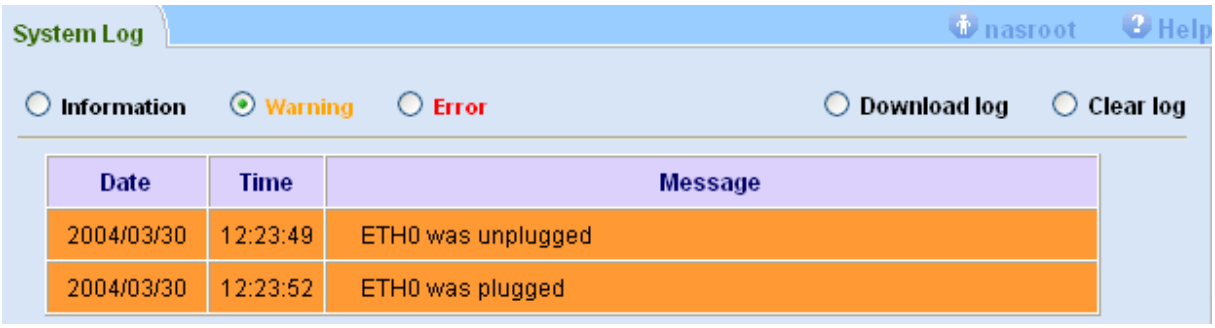


Figure 3-89 Warning Log Overview

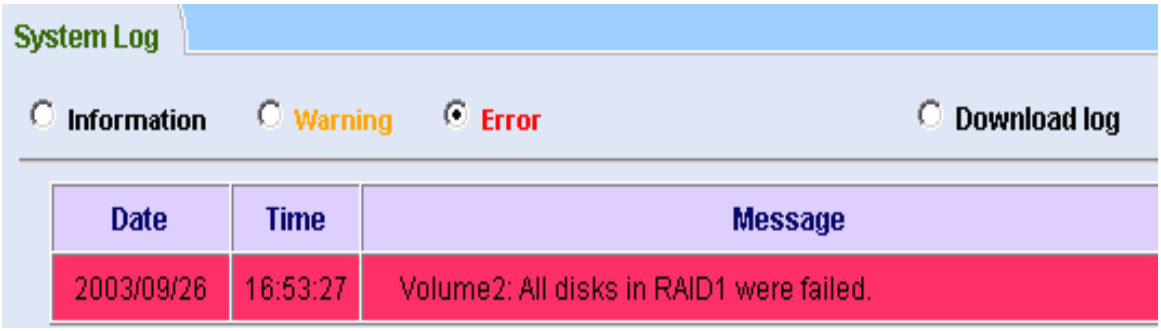


Figure 3-90 Error Log Overview

There are three message options available at the top of the screen for the administrator to view all conditions of the system.

(1) Information: Shows all usage messages of the system.

(2) Warnings: Shows warning (yellow) and error (red) messages.

(3) Error: Shows only error (red) messages.

Checking the Warning option will list only the Warning messages and similarly checking the Error Option will list only the Error messages.

Download log is an option to supply events notification information to easyRAID for trouble shooting purposes. Click on “Download Log.” A window will pop up and prompt a user name and password, as shown in figure 3-91. The file will be downloaded onto the desktop with a file name like “`ErrorReport_000295.bin`”. This report can be email to easyRAID (support@easyRAID.com) and only be opened by easyRAID for their detailed investigation.

Selecting the Clear Log will display a warning message to confirm action. Clicking OK will erase all messages in the log. This action is irrecoverable. Select Cancel to cancel action.

Figure 3-91 Enter a user name and password

Please set E-Mail Notice in the system. When the system generates any error message, it will send the message to the configured e-mail address, to alert the administrator of the system status and allow him to take appropriate corrective actions.

3-9 WAN Settings

The page displays WAN settings of the system, figure 3-92 shows related information of WAN port.

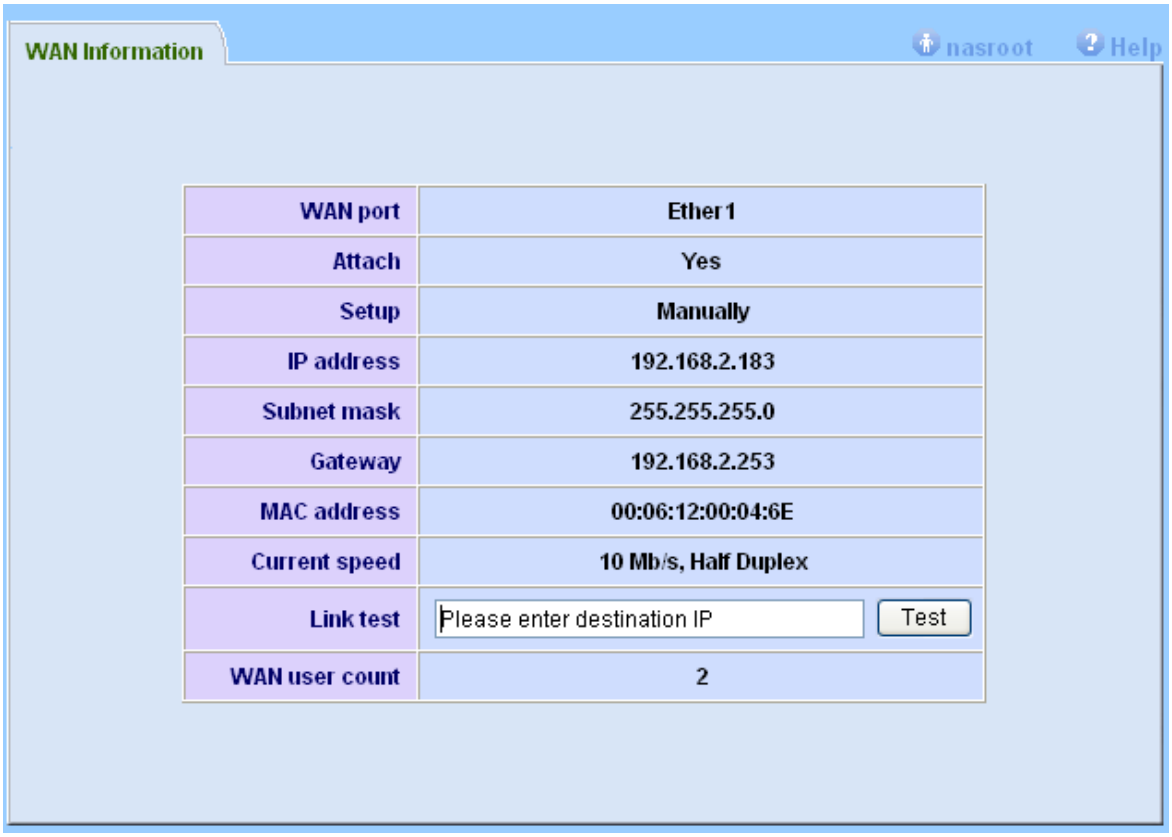


Figure 3-92 WAN port information

- **WAN port** : Two network interfaces are provided in the system, and the second interface is used as WAN port. You can assign a physical IP address to it, then access the system from WAN.
- **Attach** : Displays if the network interface is attached.
- **Setup** : Displays "Manually" if the corresponding interface uses static IP address, or "DHCP/BOOTP" if dynamic IP address is in use.
- **IP Address** : Displays IP address of the corresponding network interface.
- **Subnet mask** : Displays subnet mask of the corresponding network interface.
- **Gateway** : Displays gateway of the corresponding network interface.
- **MAC address** : Displays MAC address of the corresponding network interface.
- **Current speed** : Display current speed in Mbits per second and Full/Half Duplex attribute of this NIC.
- **Link test** : Fill the text field with a IP address you want to ping, then click the

Test button. The result of test will show in the text field.

- **WAN user count** : Display the count of existing WAN users.

3-9-1 Basic WAN Port Setting

Figure 3-93 shows the settings screen of WAN port. From the pull-down menu, you may select the system IP address as “DHCP/BOOTP” Obtain an IP Address “Automatically” or “Manual.”

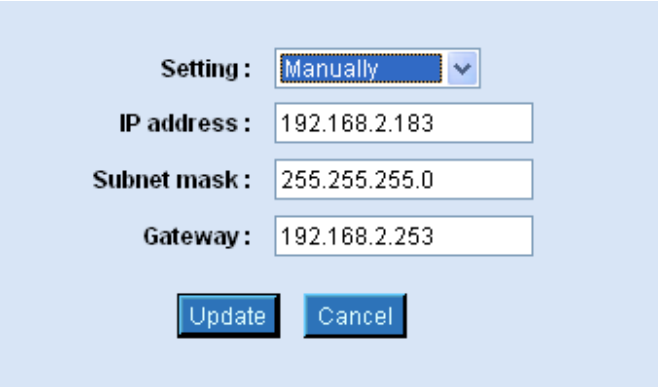


Figure 3-93 Settings of WAN Port

- ***Setting :*** This select list displays current setting of the WAN port. [*IP Address*], [*Subnet Mask*], and [*Gateway*] will be disabled if this select list is "DHCP/BOOTP". Otherwise, specify them manually in the following 3 text fields respectively.
- ***IP Address*** : This text field displays current IP address of the WAN port. If "DHCP/BOOTP" is selected in [*Setting*], the text field will be disabled and IP address is assigned automatically/dynamically depends on your network environment.
- ***Subnet Mask*** : This text field displays current subnet mask of the WAN port. If "DHCP/BOOTP" is selected in [*Setting*], the text field will be disabled and subnet mask is assigned automatically/dynamically depends on your network environment.
- ***Gateway*** : This text field displays current gateway of the WAN port. If "DHCP/BOOTP" is selected in [*Setting*], the text field will be disabled and gateway is assigned automatically/dynamically depends on your network environment.
- ***Update*** : The system saves all modifications if this button is pressed.
- ***Cancel*** : The system skips

We strongly recommended that do not use *DHCP/BOOTP* setting because some DHCP server may change IP address of the system and may cause some services on system work abnormally.

3-9-2 WAN User Account

The LAN user and WAN user must be unique, not allow duplicate.

The figure 3-94 displays currently existing WAN users' information, and provides tools to *Add*, *Delete* or *Modify* users.

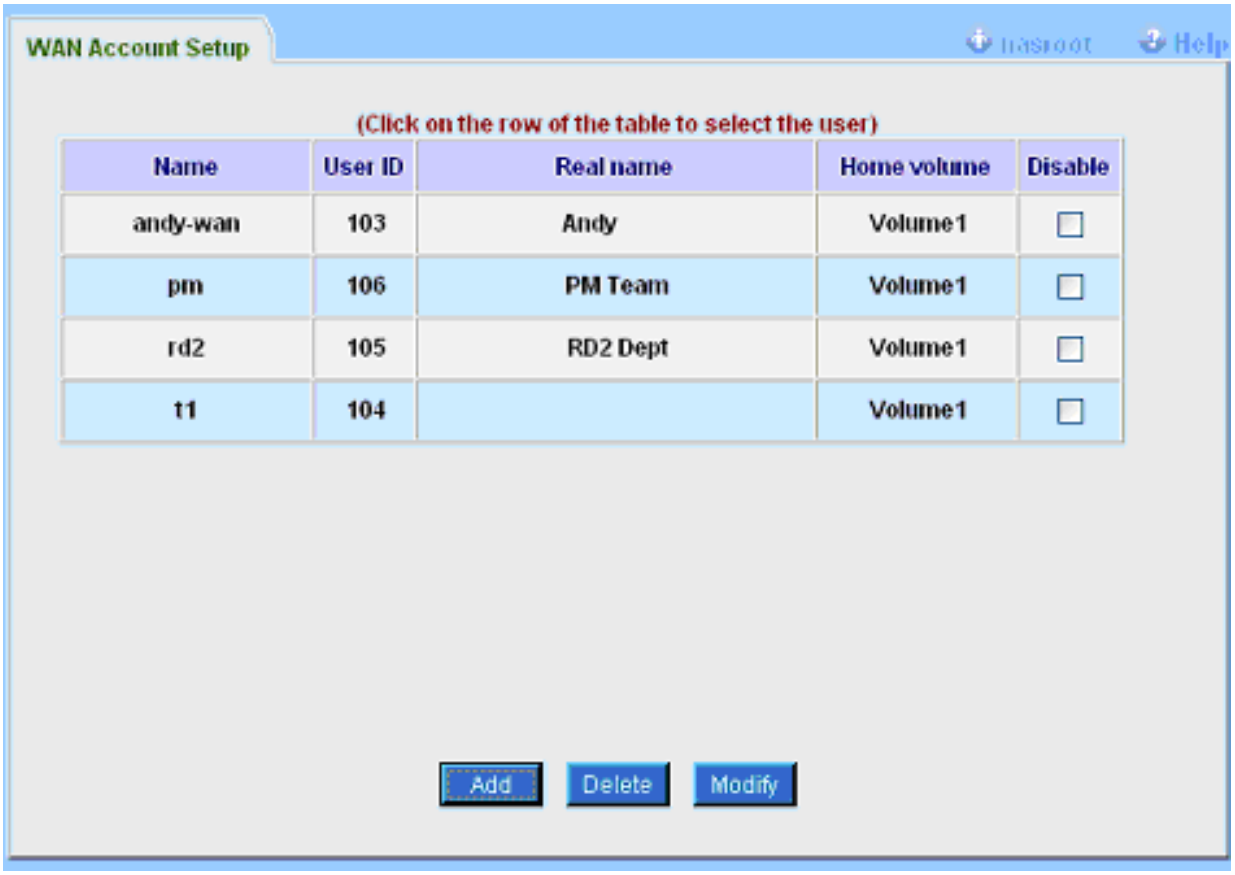


Figure 3-94 WAN user Settings Screen

- ***Name*** : Login name of an user.
- ***User ID*** : User ID of an user.
- ***Real Name*** : The real name of an user.
- ***Home volume*** : The home volume of this user.

- ***Disable*** : The check box should be checked, if this user has been disabled

3-9-3 FTP Log

Figure 3-95 shows all FTP transmissions including upload and download logs of the system FTP clients.

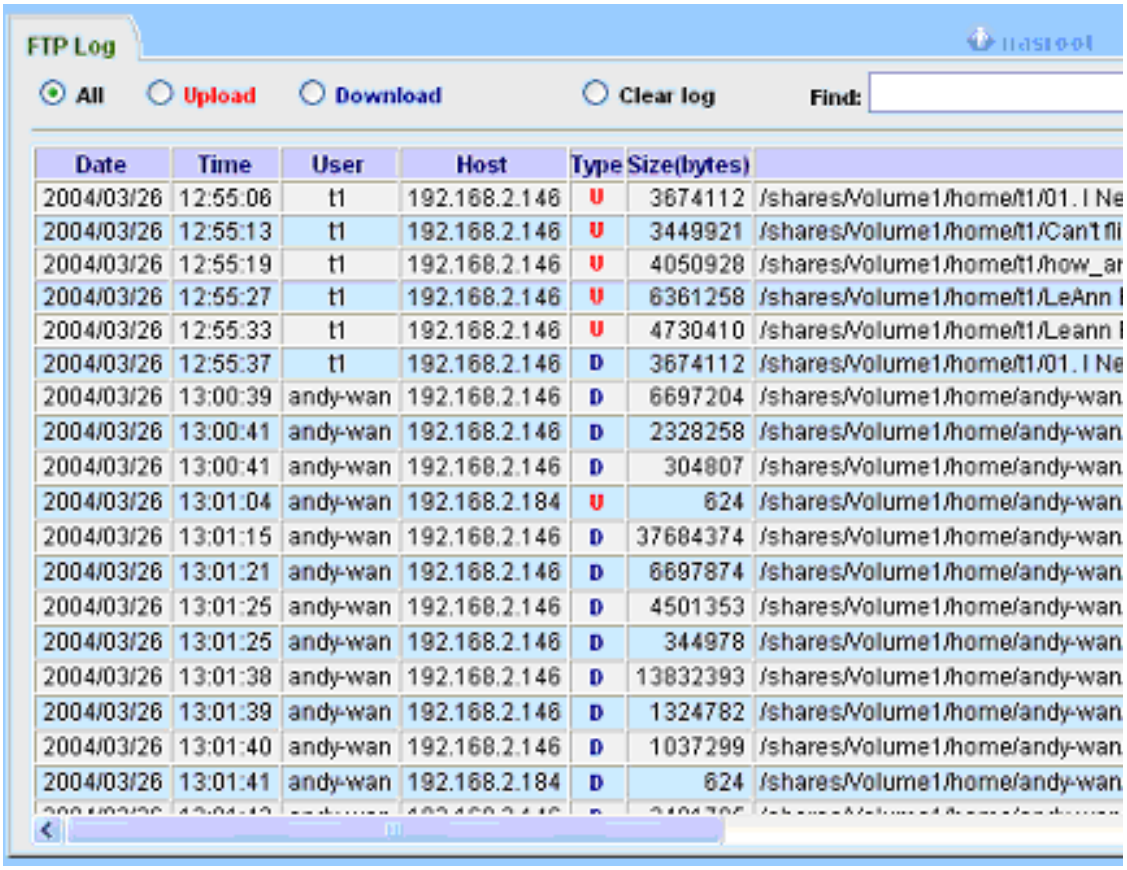


Figure 3-95 FTP Log Information

On the top left corner of Figure 3-92 there are three radio buttons to select which type of FTP logs will be displayed.

- **All**: The system displays all types of FTP logs.
- **Upload**: The system displays upload logs.
- **Download**: The system displays download logs

On the top right corner of Figure 3-92 there is one radio button and one FTP log search function.

- **Clear log**: The administrator can click this radio button if she/he wants to clear the FTP log. A clear log page is then displayed and there are 2 buttons in the clear log page: **OK**, and **Cancel**:
  OK: All the FTP logs will be cleared if this button is pressed.
  Cancel: Cancel clear log; goes to the FTP Log page.
- **Find**: Enter the text to the text field and click [*Find*] button, it will display FTP logs which match the finding text.

3-10 Logout

To exit the administration page, click on “Logout” option in the Menu Area. Figure 3-96 shows the screen to logout. The system will automatically log out when the administrator screen has been inactive or idle for 5 minutes.

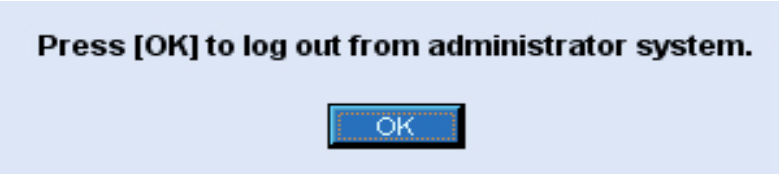


Figure 3-96 Logout

The administration page allows only one user to login at a time. If any other user is trying to login at the same time, the system prompts an error message.

3-11 Shutdown

To shutdown or reboot the system, click on “Shutdown” option in the Menu Area. Figure 3-97 shows the confirmation screen.

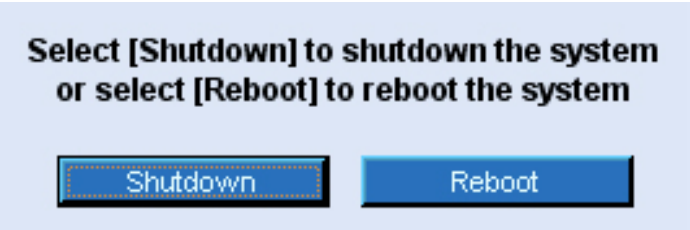


Figure 3-97 System Shutdown/Reboot

Selecting this option of “soft” shut down or rebooting ensure all users are warned and all files are closed before the shutdown or rebooting operation commences. Physical shutdown by operating the switch or terminating power directly to the unit may cause hardware or data damage.

To shutdown or reboot the system, a user must do so via the “Shutdown” or “Reboot” option on the administration page. If the system is physically shutdown directly when it is still operating, hardware damage or data loss may occur. A UPS is highly recommended to avoid inadvertent power failure or power surges.

3-12 User-Level Access

A Client User may access the NAS via the web browser without the need to go through the Administrator but his access is limited to changing his own password only. He must have his User Name and old password to access this option.

Figure 3-98 User login

3-13 Changing Password

Figure 3-99 shows the screen for changing a user password. Enter the original password and choose a desired new password. After confirmation, the system will update the password for the user.

Figure 3-99 User login—changing password

Chapter 4 Using the LCD Control Panel

By using the easyRAID NAS System front control panel, the administrator may complete basic system configuration settings.

The front control panel has the following functions:

(1) View and set network port

(2) Monitor system hardware status

(3) Reboot or shutdown system

To restore default settings: Use the easyRAID NAS System front control panel, and complete the settings configuration described in this section.

4-1 Front Control Panel Functions Introduction

The easyRAID NAS System front control panel is shown in figure 4-1. It consists of a LCD display panel that displays two rows of characters, each row with 16 characters, four buttons, and two LED status indicators.

Each HDD caddy/tray has 2 indicator LEDs to show HDD status. The top LED has two indications:

1) Green indicates normal operations,
2) Red indicates problem with the HDD.

The bottom LED also has two indications:

1) Orange indicates drive being accessed,
2) Off indicates idle

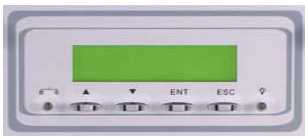


Figure 4-1 easyRAID NAS System Front Control Panel

Under normal operation, the front LCD Control Panel displays various system parameters continually for your reference. Each parameter is displayed for 2 seconds on the control panel, before displaying the next parameter.
The following parameters are displayed:

(1) NAS Name and Model

(2) CPU Fan Speed (RPM)

(3) CPU Temperature (°C and °F)

(4) Ethernet IP Address

4-1-1 LED Indicators

The following table describes the meanings of LED indicators on the front LCD Control Panel:

LED	Location	Description
Power	Right Green	Shows easyRAID NAS System is powered-on and is in normal operation.
Network Status	Left Orange	Shows easyRAID NAS System is connected to the network.

4-1-2 Buttons

Use the (▲) up arrow, (▼) down arrow, ESC, and Enter keys to select various configuration settings and menu options for easyRAID NAS System configuration. The following table illustrates the keys on the front control panel.

Key	Description
(▲) Up Arrow	Select the next option of configuration settings menu.
(▼) Down Arrow	Select the previous configuration settings menu option.
Enter	Enter the selected menu option, sub-menu, and parameter setting.
ESC	Escape and return to the previous menu.

4-2 Basic Menu Options on the LCD Control Panel

When the LCD Control Panel is in normal state, use the Enter Key followed by the (▲) up arrow or (▼) down arrow to get into the options of the Basic Menu. Using the (▲) up arrow only will allow two other special control modes. These are resetting to factory default or resetting the Admin Password.

This section will cover all options in the Basic Menu as well as the two special control modes.

4-3 Special Mode

4-3-1 Resetting to Factory Default

Use the (▲) up arrow to select the Factory Default setting. Note that there are two ways of resetting to factory default. The first method is via the GUI at the Factory Default in System Setup in the Menu Area (see section 3-4-8). The second method is via the LCD Control Panel. This option provides default settings of the whole system. Users, groups, user quotas, user privileges, and network settings will be erased if this function is performed while the drives are still inserted. Pay special attention before using this option, and be sure to remove all drives prior to activating this process. Otherwise, all contents will be erased and restored back to default settings. Alternative is to ensure a backup of the configuration setting is completed before completing this action. See section 3-4-7 to backup the configuration file.

To use the “Factory Default” function, press the (▲) up or (▼) down key to select “Factory Default Restore Settings” and press “Enter”. When confirmation for restore default appears, press the (▲) up or (▼) down keys to “Yes” and then press “Enter”. The default settings will be restored.

When entering the administrator password, enter a “()” to fill in any blank. Otherwise, after entering the administrator password, press the “ESC” key to jump through empty characters.

4-4 System Memory Size

This shows the memory size inside the easyRAID NAS System Network HDD Array.

4-5 CPU Information

This shows the model and speed of the system CPU.

4-6 Advanced Menu Options

When the easyRAID NAS System front control panel is in an idle state, press the “Enter” key to get into the options of the Advanced Menu.

4-7 Network Menu

This allows Ethernet configuration settings to be changed. Its options are as followings:

11Channel 0
- 111CH0 Status
- 112CH0 IP Address
- 113CH0 Subnet Mask
- 114CH0 Hardware Address
- 115DHCP Status

12Channel 1
- 121CH0 Status
- 122CH0 IP Address
- 123CH0 Subnet Mask
- 124CH0 Gateway
- 125CH0 Hardware Address
- 126DHCP Status

4-8 System Menu

This is used to set basic system parameters. All options of the system menu are listed as follows:

(1) 21 Clock
- 211 Date: Set date
- 212 Time: Set time
- 213 Time zone: Set time zone

(2) 22 Shutdown
- 221 Reboot System: Restart system
- 222 Halt System: Shutdown system

4-9 Miscellaneous Menu

This is used to set miscellaneous option of system. Its options are as followings:
- 31 Setup Password: Change root password

Chapter 5 System Operation

The concept behind the design of the easyRAID NAS System is to make it as convenient and easy to operate as possible for users. However, under certain unusual circumstances and improper operations, data damage might occur.

easyRAID NAS System is not a backup server. You have to use an independent backup server for backup tasks (e.g., a tape backup server) to prevent data loss.

When only one HDD is damaged, the function of RAID-1 can only ensure data integrity. If the administrator makes mistakes or operates improperly and deletes a HDD that should not be deleted, all data will be lost. An independent backup server is necessary to guarantee better data security.

5-1 Normal Operation

Under normal operation, easyRAID NAS System handles all RAID tasks: network connections, user privilege settings, setting up parity bit or data support, and monitoring the status of the system itself.

5-2 Data Synchronization

When the system starts up for the first time or is shut down abnormally, the system will first check if there is any discrepancies in the data copy setup of the storage volume in RAID-1 and what is stored in ROM. If there is no discrepancy, the system will continue normal operations.

If errors exist, then the system will automatically perform synchronization of the

storage volume data, according to the associated location of parity bit.

When the system is performing data synchronization, the data stored in a storage volume will be recovered into the appropriate RAID set. However, under these conditions, the process must not be interrupted as it cannot then make a full recovery or list the parity bits of the storage volume in the RAID set.

If interruptions occur or another drive is damaged or removed while the system is undergoing data synchronization, the result will cause the loss of all data in the storage volume that cannot be recovered.

When the system is performing data synchronization, do not delete RAID-1 storage volumes or remove any drives. Also do not remove more than one drive in a RAID 1 set while the unit is in operation. Should a second drive be removed or failed, then all data will be lost.

5-3 Hard Disk Drive Damage

easyRAID NAS System will automatically detect any damaged HDD, which fails to perform access tasks. If any HDD is damaged, the system will automatically stop using the damaged HDD and send e-mails to notify the system administrator as well as providing an audible warning (may be turned off by Administrator as an option but not recommended).

5-4 Hard Disk Drive Replacement

If any HDD is damaged, it is possible to acquire this information from Storage Volume Overview in the administrative page, or the indicator light on the HDD caddy/tray. easyRAID NAS System supports HDD hot-swap, thus there is no need to shutdown the system to replace the failed HDD. See Figure 5-1

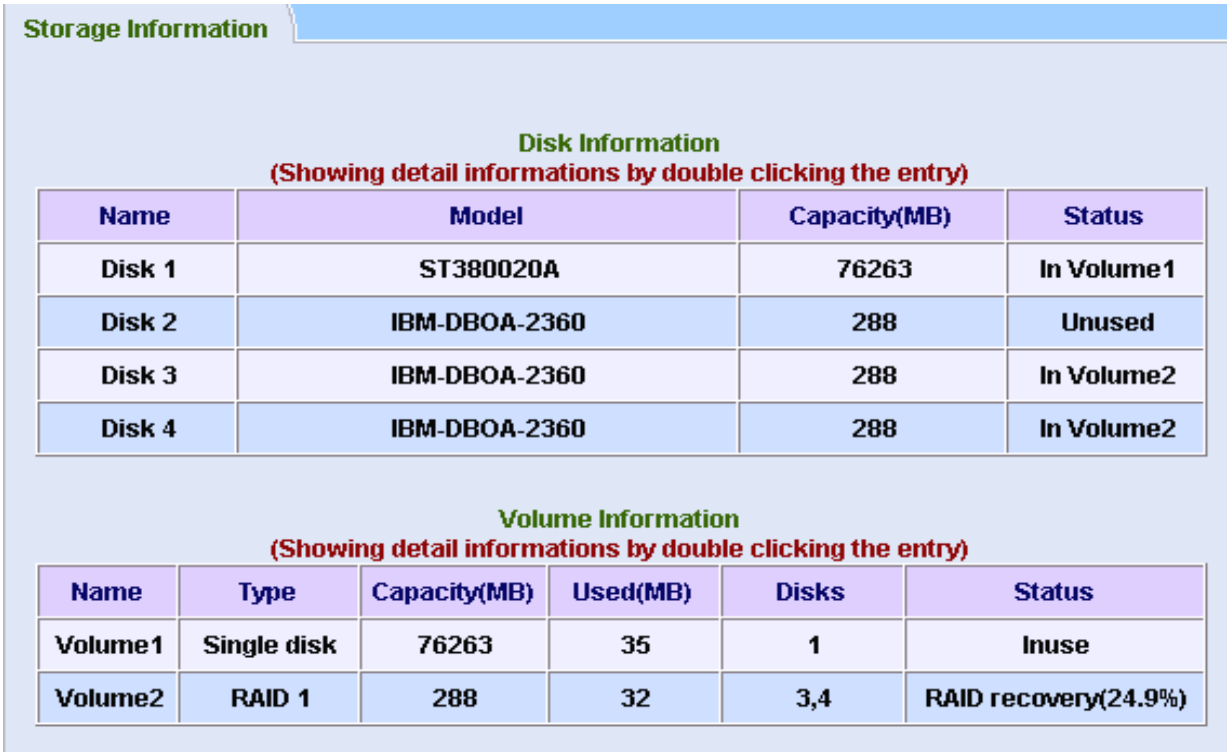

Storage Information
Disk Information
(Showing detail informations by double clicking the entry)
Name | Model | Capacity(MB) | Status
Disk 1 | ST380020A | 76263 | In Volume1
Disk 2 | IBM-DBOA-2360 | 288 | Unused
Disk 3 | IBM-DBOA-2360 | 288 | In Volume2
Disk 4 | IBM-DBOA-2360 | 288 | In Volume2
Volume Information
(Showing detail informations by double clicking the entry)
Name | Type | Capacity(MB) | Used(MB) | Disks | Status
Volume1 | Single disk | 76263 | 35 | 1 | Inuse
Volume2 | RAID 1 | 288 | 32 | 3,4 | RAID recovery(24.9%)

Figure 5-1 Disk Auto-Rebuild

Please follow the following steps to replace the failed HDD:

(1) Make sure you have a replacement HDD and its capacity must be equal or greater than the damaged HDD.
(2) Pull the damaged HDD out of its Caddy. Make sure the indicator LED is red on the Caddy from which it will be drawn. Taking out the wrong drive **WILL** destroy your data.
(3) Take out the damaged HDD and replace with the new HDD.
(4) Put the Caddy back into the easyRAID NAS System unit

Using RAID-1 provides protection against only one damaged HDD. If 2 HDD are damaged at the same time or the system administrator mistakenly replaces a not-damaged HDD, all data in the RAID storage volume **WILL BE LOST**.

5-5 Automatic Data Recovery

If a RAID-1 function is enabled, easyRAID NAS System will automatically recover the data onto the new HDD.

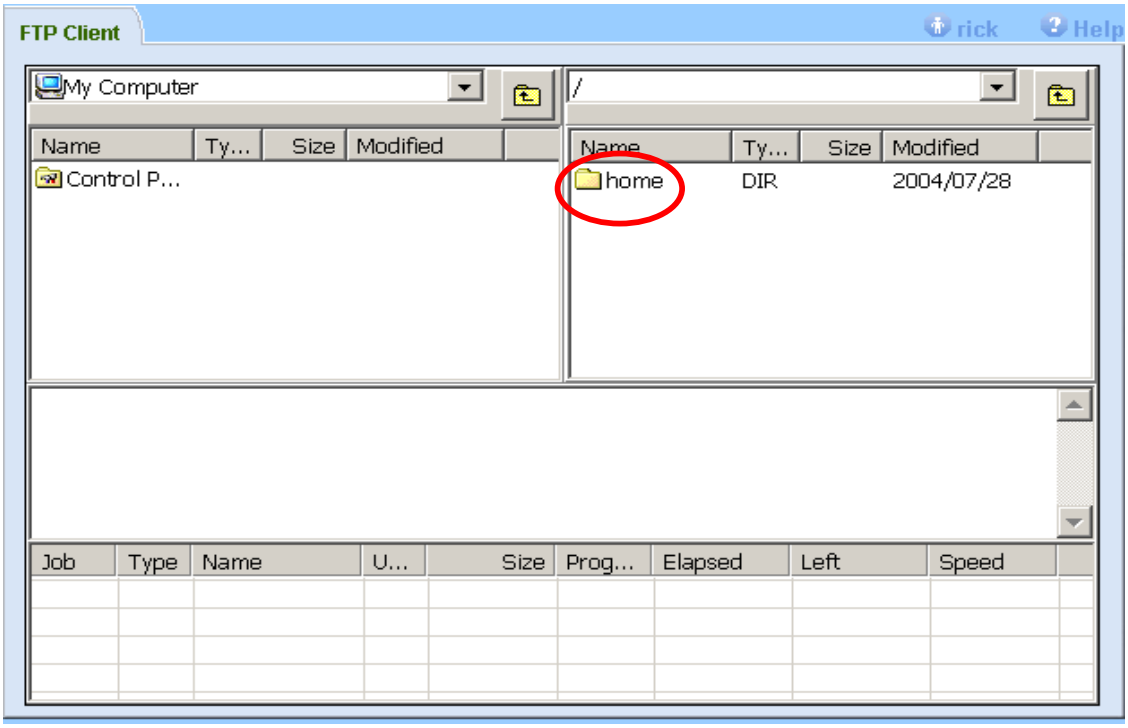
Appendix A: WAN User Connection

The system support user connection via WAN port to upload / download files.

Windows

The easyRAID NAS system has integrated FTP utility OCX clients for user to connect easyRAID NAS via FTP to upload and download files through WAN port. Please refer the Appendix B of this manual for details usage.

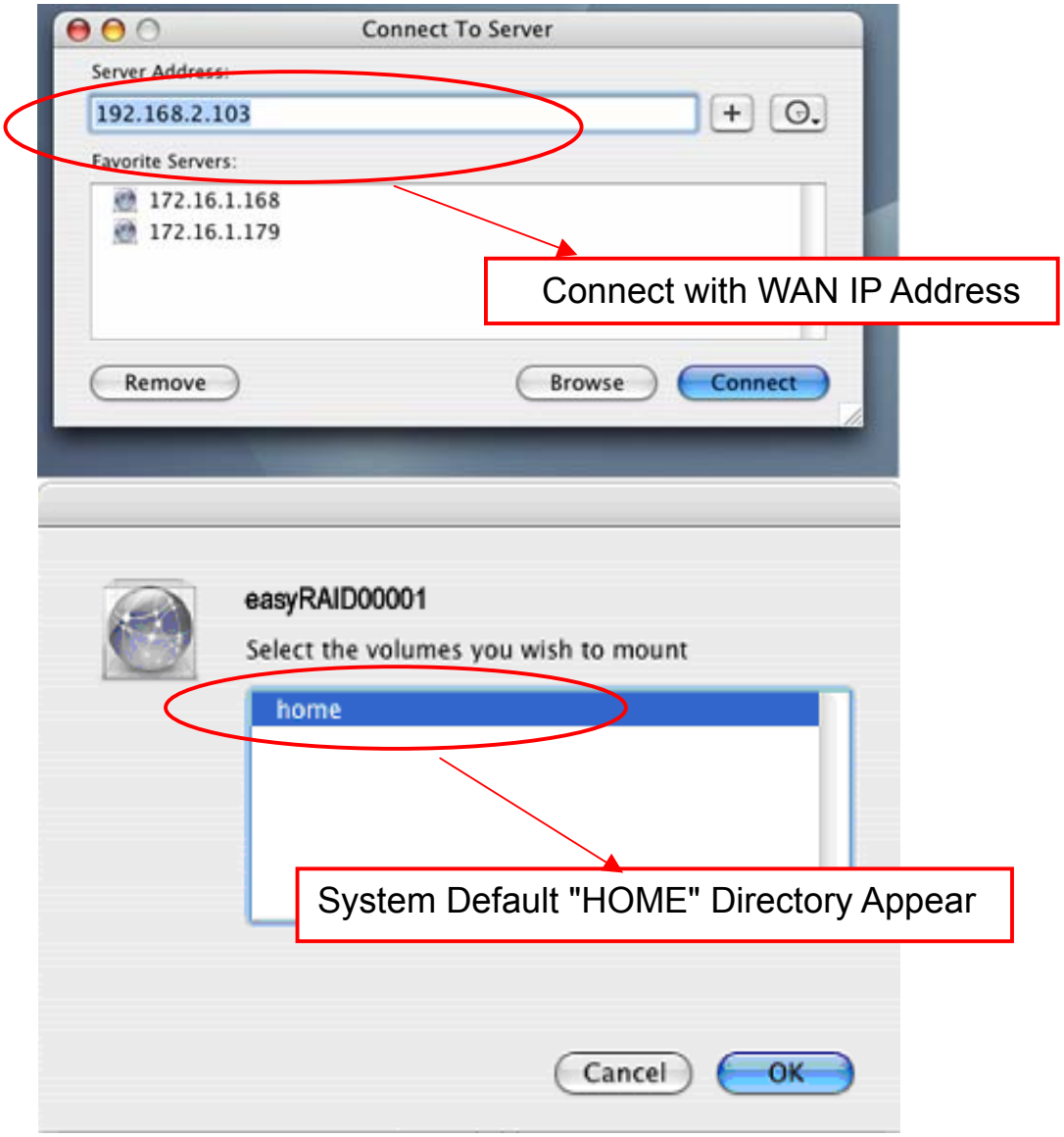
Each registered WAN user, the system will create “HOME” directory automatically by default and unchangeable. Please refer the figure below.



Remote connection to easyRAID NAS via WAN port

Apple

For MAC users to remote connect with easyRAID NAS via WAN port, it is exactly same way while you connect in local LAN. The only thing need to remind here that **AppleTalk must be active**. And again the only working directory is “HOME” by system default.

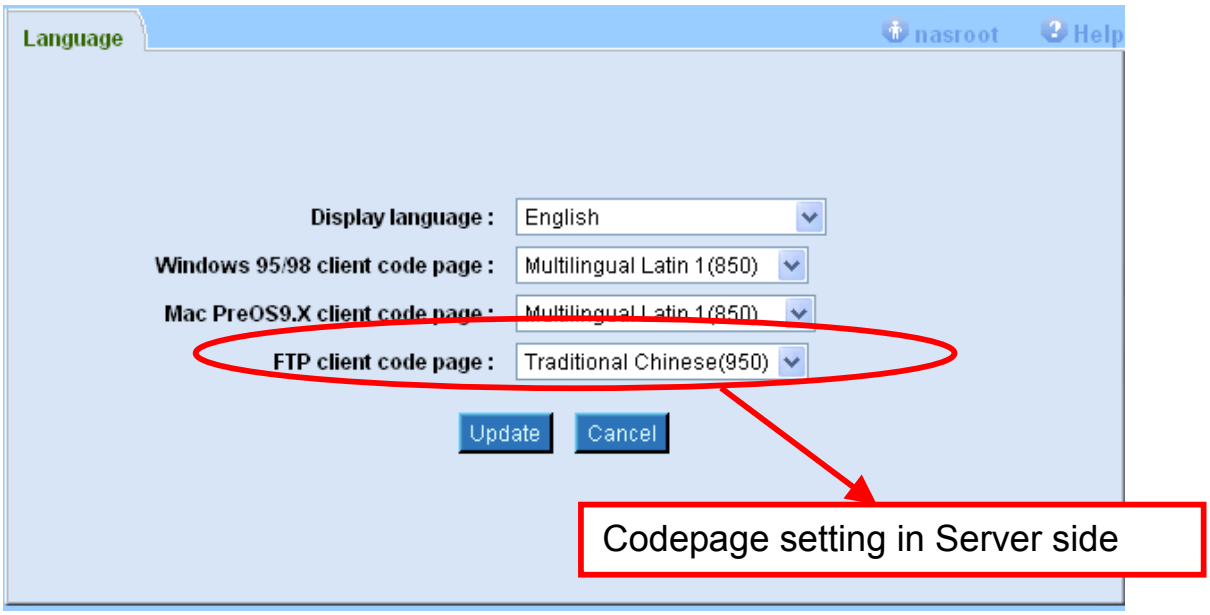

Connect To Server
Server Address:
192.168.2.103
Favorite Servers:
172.16.1.168
172.16.1.179
Connect with WAN IP Address
Remove
Browse
Connect
easyRAID00001
Select the volumes you wish to mount
home
System Default "HOME" Directory Appear
Cancel
OK

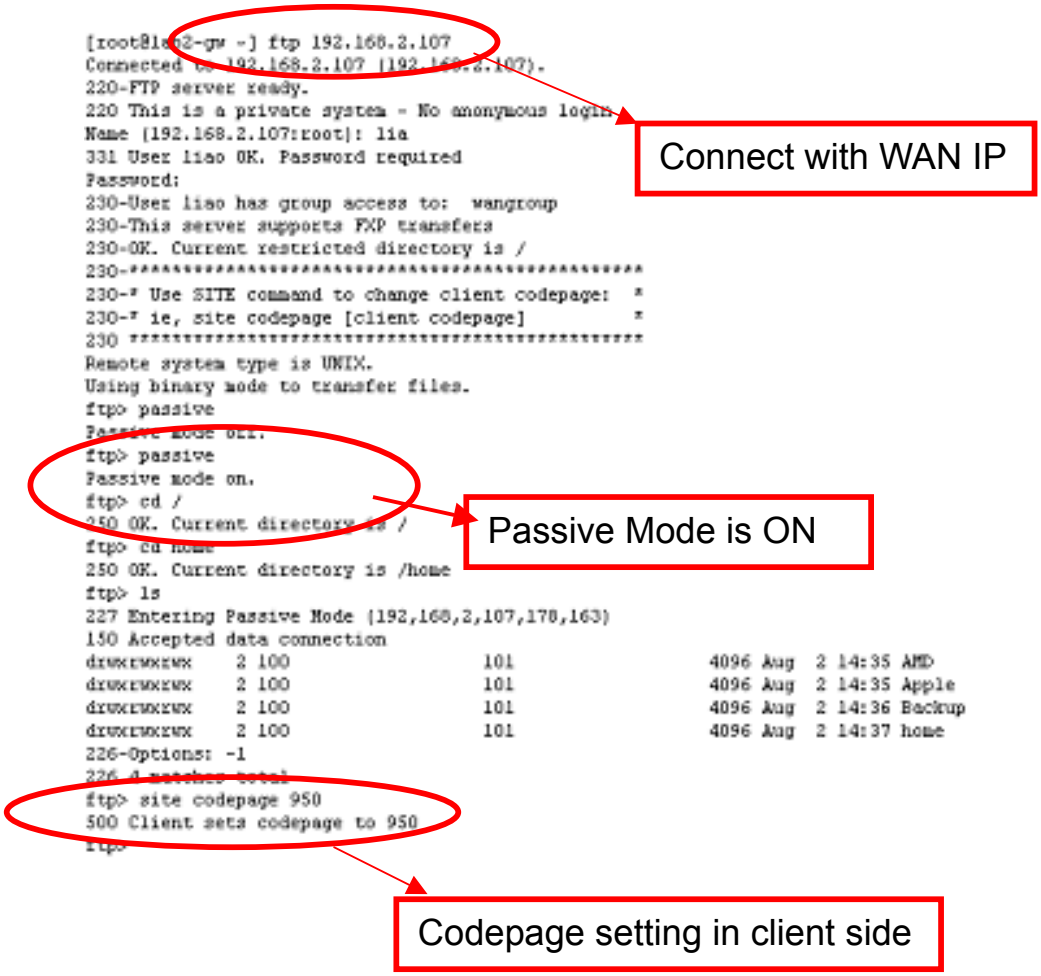
home

Linux / UNIX

For Linux / UNIX clients to connect easyRAID NAS system through WAN port, by using the FTP command and PUT / GET for file upload and download.

If there is double-byte file name or folder name included for upload or download please make sure the passive mode is ON and code page in server and client sides are the same.




[root@lia02-gw ~] ftp 192.168.2.107
Connected to 192.168.2.107 (192.168.2.107).
220-FTP server ready.
220 This is a private system - No anonymous login
Name (192.168.2.107:root): lia
331 User liao OK. Password required
Password:
230-User liao has group access to: wangroup
230-This server supports FXP transfers
230-OK. Current restricted directory is /
230-***
230-* Use SITE command to change client codepage: *
230-* ie, site codepage [client codepage] *
230 ***
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> passive
Passive mode off.
ftp> passive
Passive mode on.
ftp> cd /
250 OK. Current directory is /
ftp> cd home
250 OK. Current directory is /home
ftp> ls
227 Entering Passive Mode (192,168,2,107,178,163)
150 Accepted data connection
drwxrwxrwx 2 100 101 4096 Aug 2 14:35 AMD
drwxrwxrwx 2 100 101 4096 Aug 2 14:35 Apple
drwxrwxrwx 2 100 101 4096 Aug 2 14:36 Backup
drwxrwxrwx 2 100 101 4096 Aug 2 14:37 home
226-Options: -l
ftp> site codepage 950
500 Client sets codepage to 950
ftp>
Connect with WAN IP
Passive Mode is ON
Codepage setting in client side

Appendix B: How to use FTP client OCX Component

Abstract

This document will provide instructions for users to use easyRAID NAS 420GT bundled FTP client OCX.

Contents

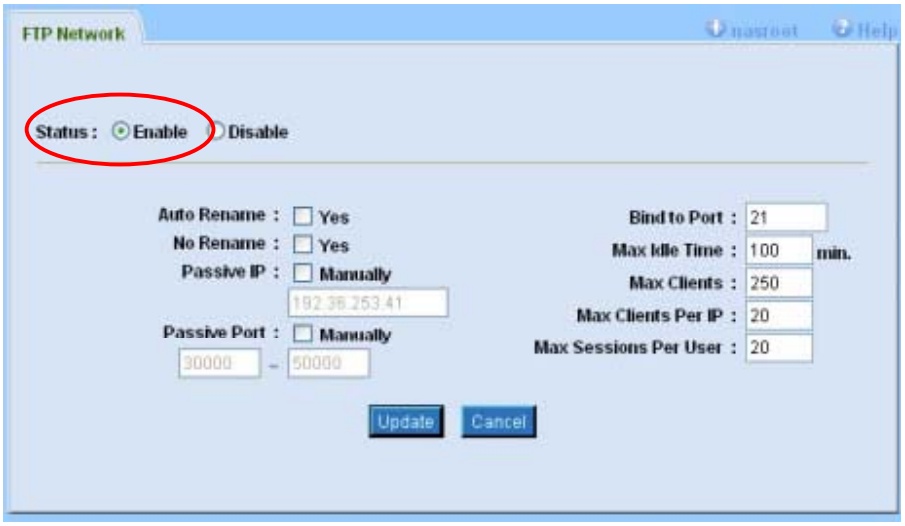
1. Introduction
2. Installation
3. Logon
4. Operations
5. Logout

1. Introduction

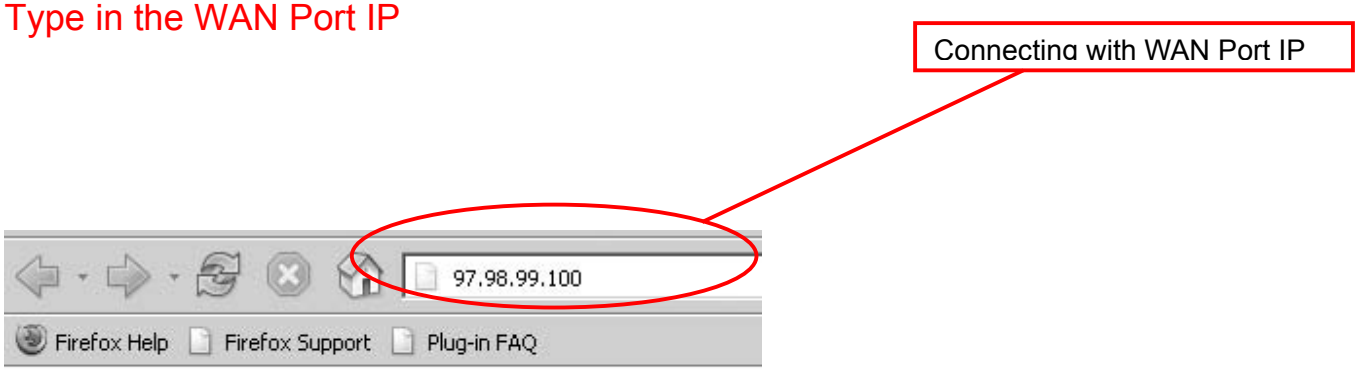
This OCX component is to provide accessibility for WAN user to upload/download files to remote NAS 420GT.

The most important reason to use this component is for multilingual support; that is, no matter what language of your only Windows system is, the names of files transferred to the other side could be recognized by users at server side immediately. Please refer the following figure for its screen.

Attention! The FTPNetwork-Status must be enabled in the Admin-Modus, to support this Feature.



Use Internet-Explorer, because of the “ActiveX”
Type in the WAN Port IP



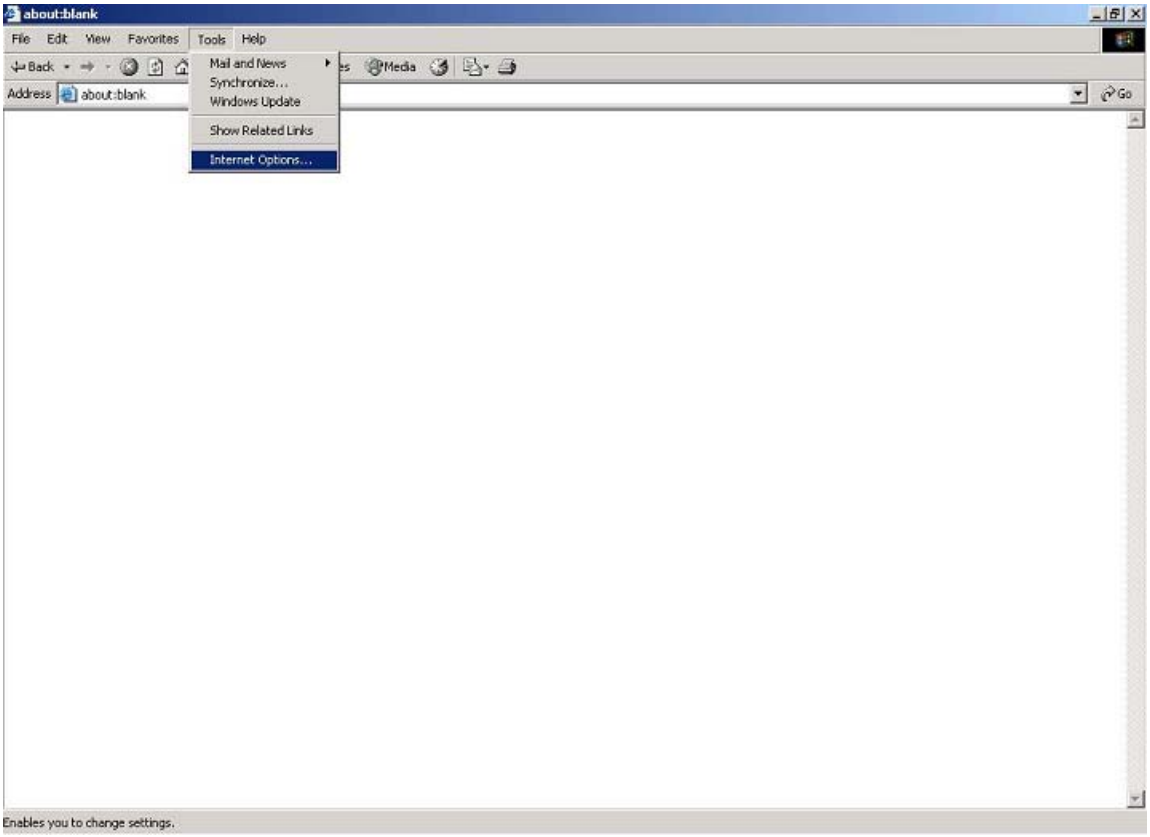
2. Installation

When you for the first time visit this page, you may see this error message as following.

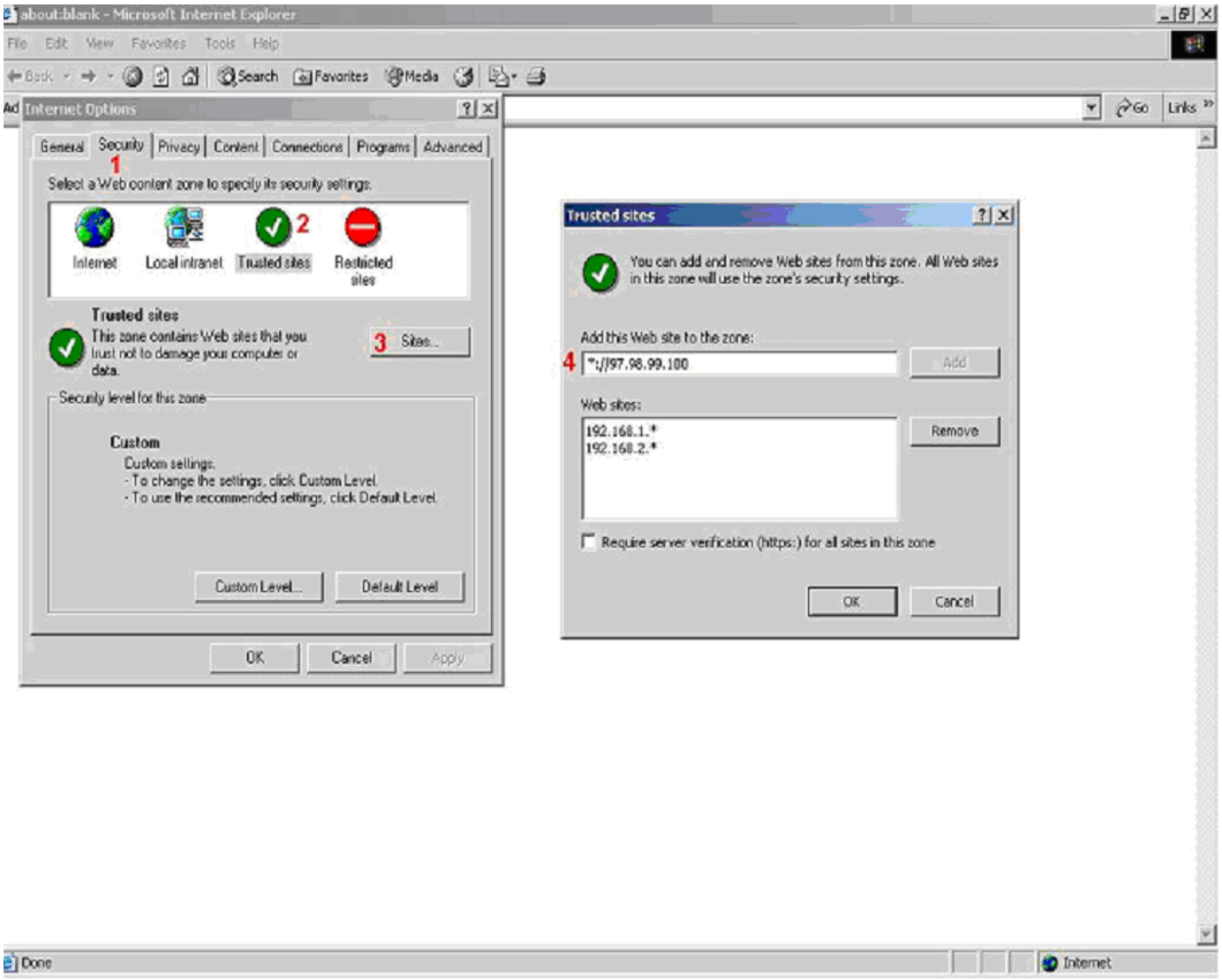
Microsoft Internet Explorer
Your current security settings prohibit running ActiveX controls on this page. As a result, the page may not display correctly.
OK

You'll need first set the IP address of remote NAS 420GT as "Trusted Site".

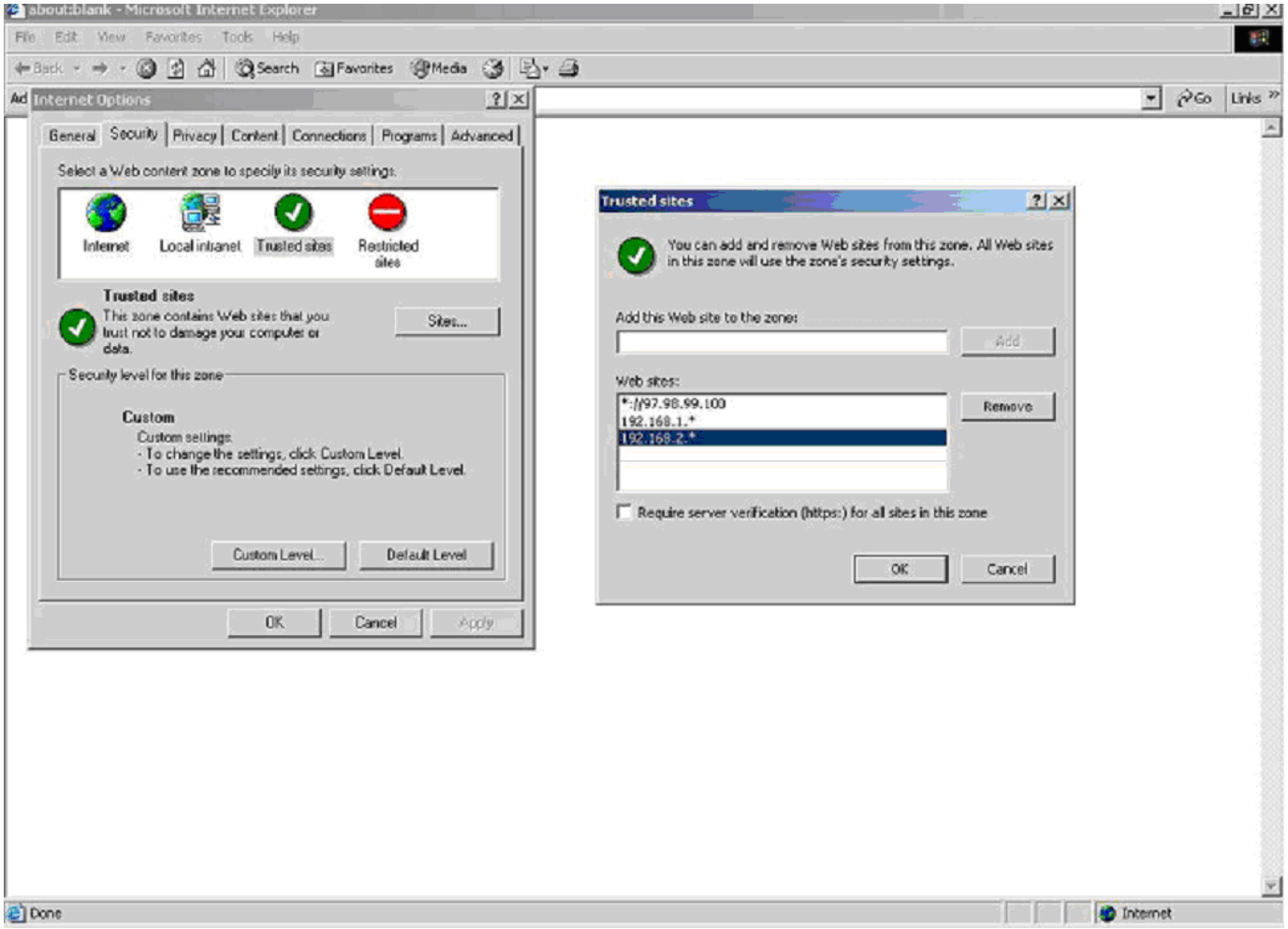
1. First, open an Internet Explorer and open the "Internet options"

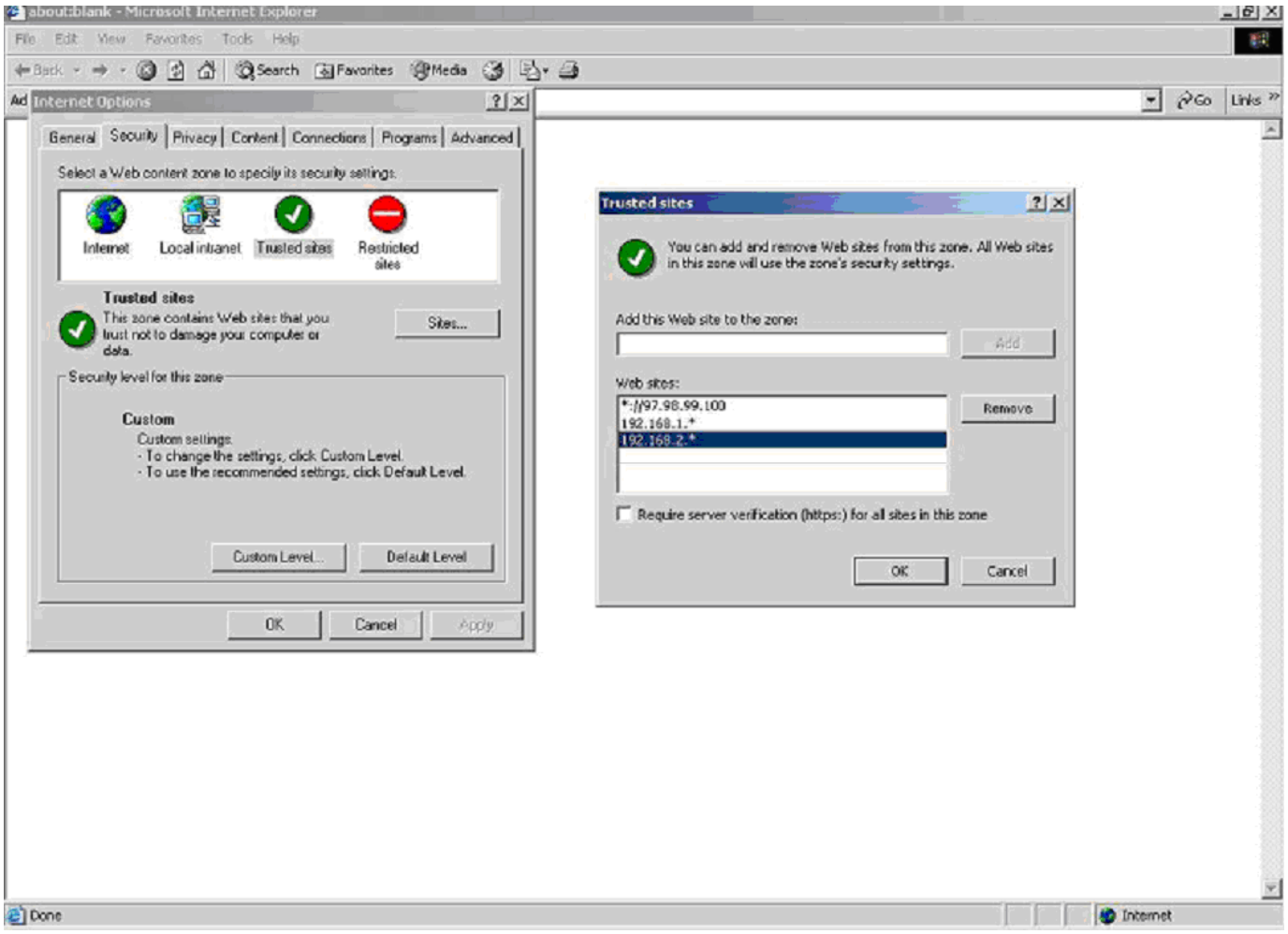


2. Second, follow the steps 1,2,3,4 as the picture shown below to open the option windows.



3. Now, use the format as *://97.98.99.100 to enter NAS' IP address into the trusted site list, press [Add] button, as figure below.





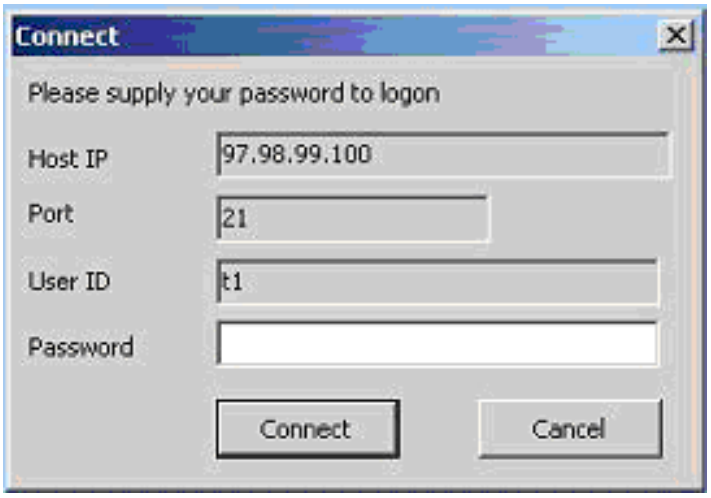
Note: use your NAS 420GT IP address to replace the above IP address 97.98.99.100

4. Finally, you can close those option windows by pressing [OK] button and go back to NAS 420GT operation.

After you have added NAS 420GT as a secure site, you can re-open FTP Client, a message will be shown in the picture below, press [YES] to automatically install the Active control to run it.

3. Logon

When you click on the "FTP Client" menu item in 420GT web console, a logon dialog box will then shown as below:



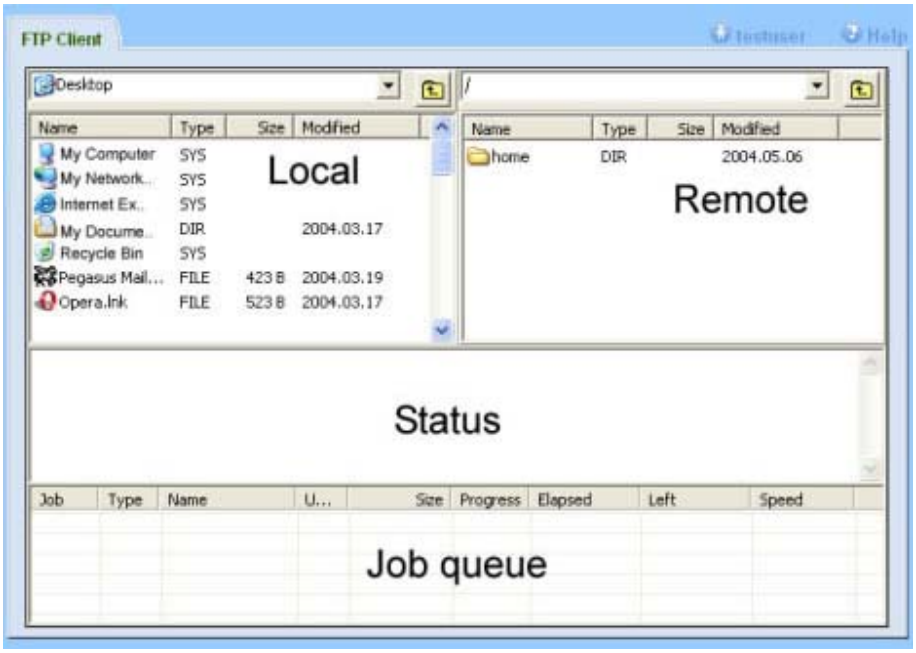
where:

- Host IP : The IP address of the FTP server, that is, NAS 420GT's IP address.
- Port : The port number used for this FTP session.
- User ID : Your login ID, same as the WEB console's login ID.
- Password : For security reason, you need retype your password again to connect to server. However, this is the only one field you need to fill to logon.

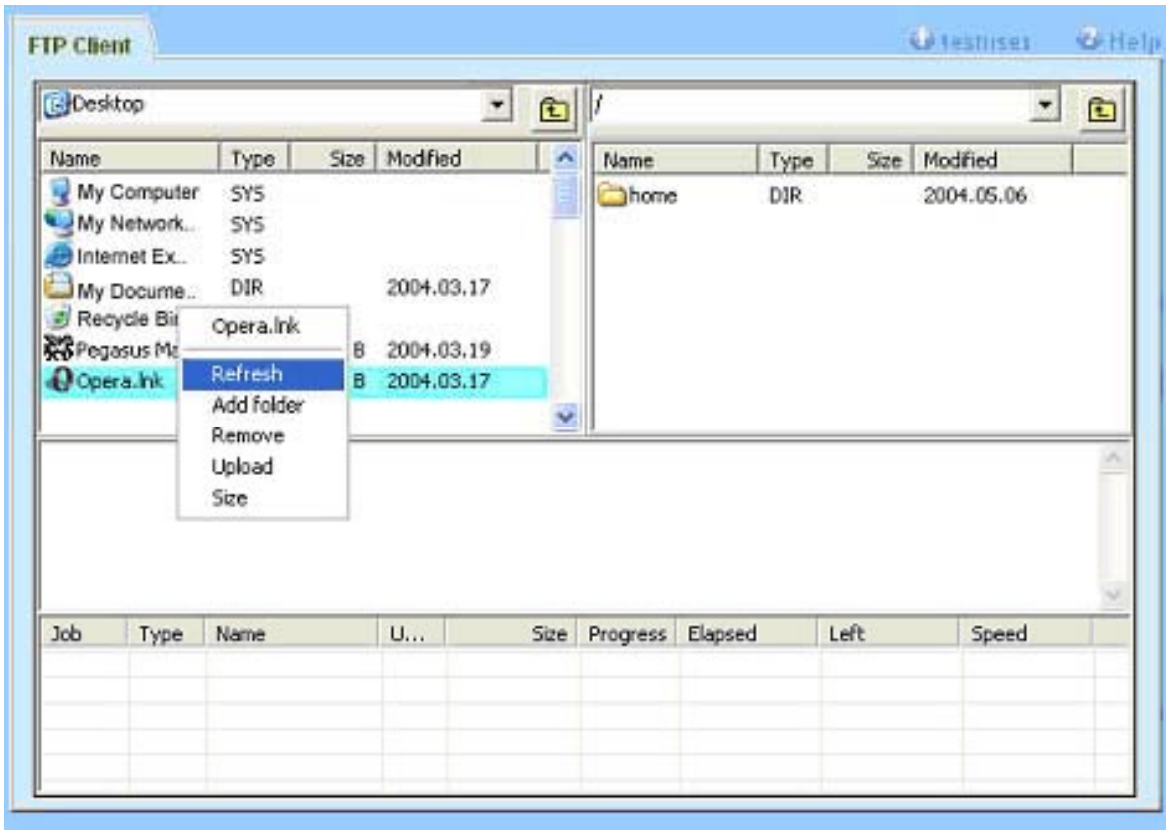
4. Operations

1. Generally, the screen is divided into 4 parts, say

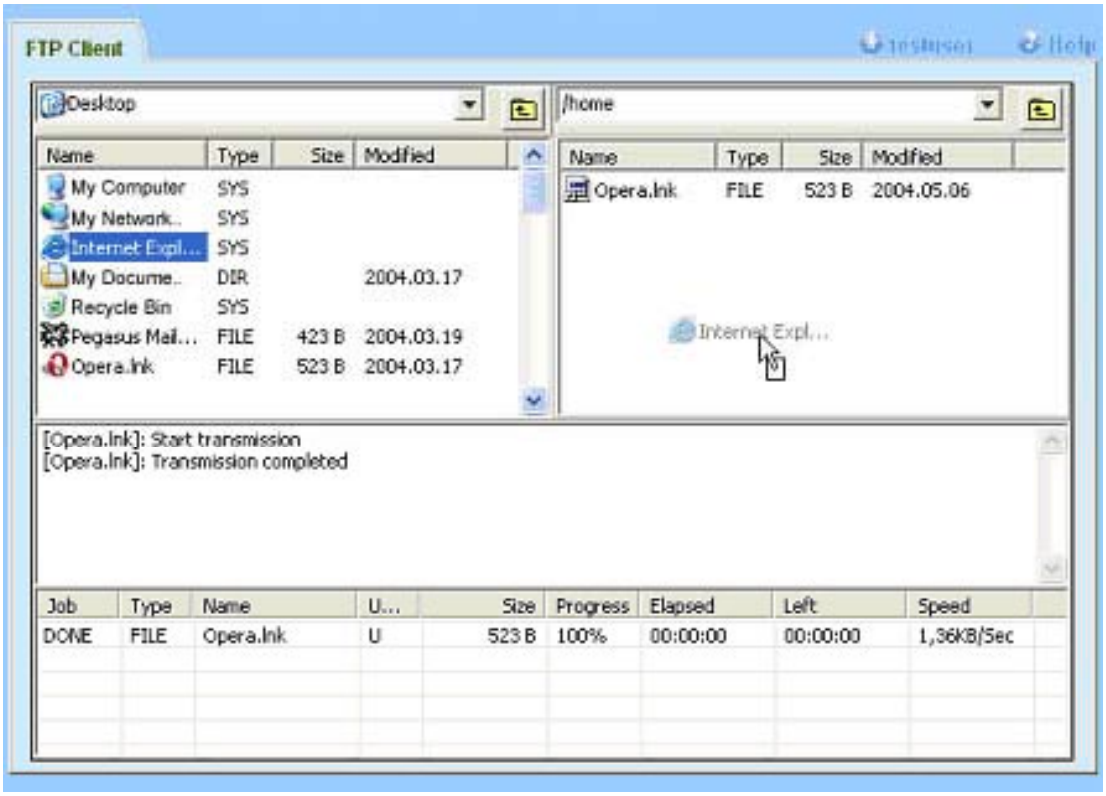
   Local :For local files operations.
   Remote :For remote files operations.
   Status :For display operation messages.
   Queue :For listing/operating current running ftp jobs.



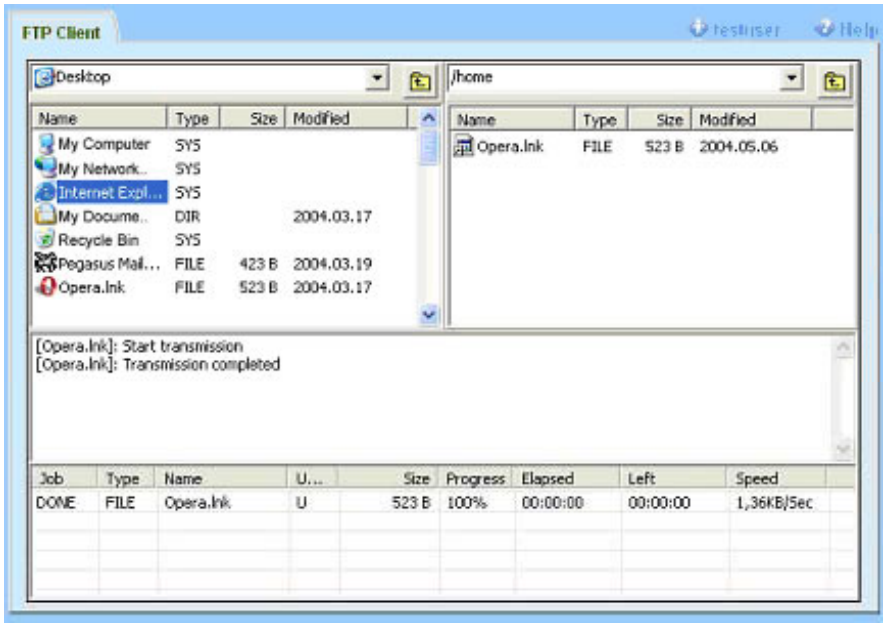
2. Use mouse right button to show related action menu. As figure below:



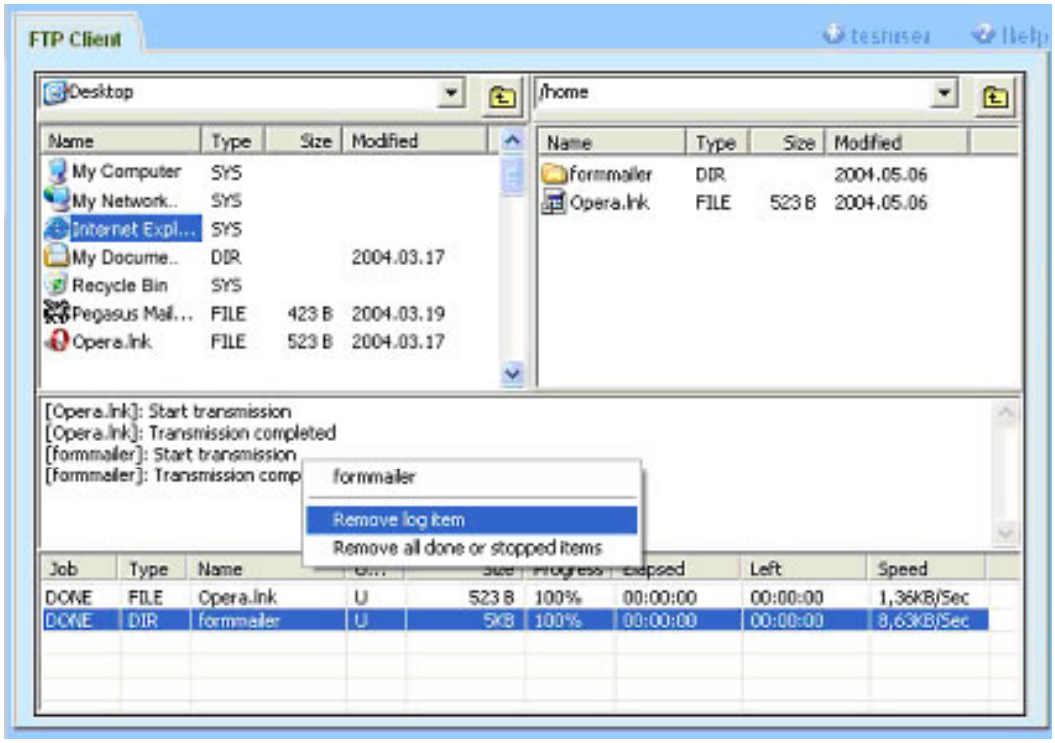
3. Or you can also double-click or drag/drop the file/dir item in the file list to the other side for upload/download,



4. When a job has started, you will see the job in the queue list. At the same time, you will also see job's total size, progress and remaining time to complete and transfer rate. And in the status window, you will see the job is marked as started.



5. A large file/directory may take a long time to transfer; you may terminate the job by also using mouse right button while job is running.



6. If the upload/download file/directory already exist at the destination, a confirmation dialog box will appear for you to Replace/Resume/Cancel the target file.

5. Logout

Note, when you switch your current web page to others then this FTP session will automatically close this session. That is, all transmission will be stopped without further confirmation.
However, although the transmission has been stopped, you may still resume the upload/download next time when you connect to NAS 420GT.